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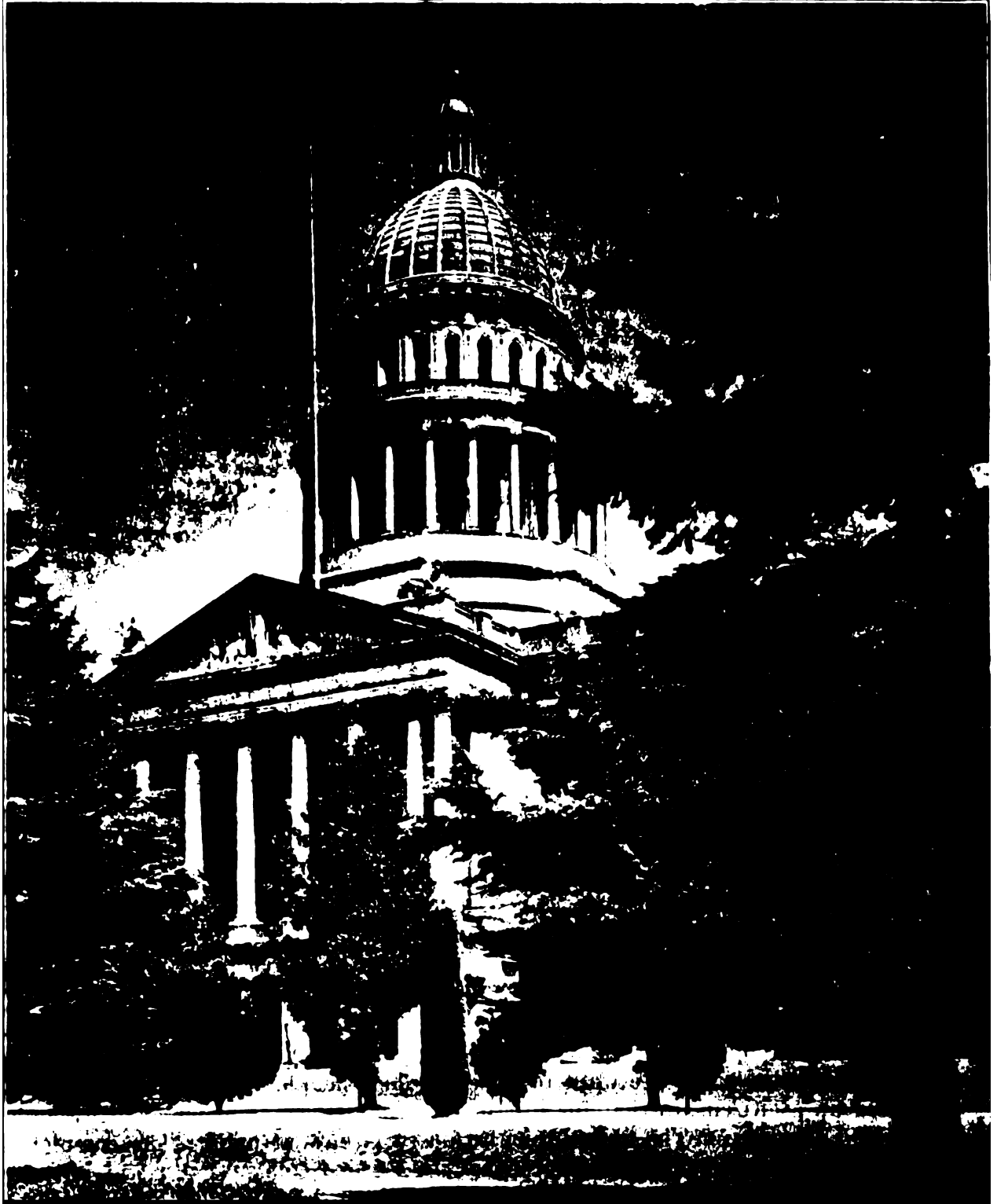

Annual Report

California. Development Association

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Panama-Pacific International Exposition, 1915

ON the day the President of the United States authorizes the first ship to pass through the completed canal across the Isthmus of Panama, the City of San Francisco, the great seaport of Pacific America, will throw wide open the gates of an International Exposition, and welcome the Nations of earth to join in the celebration in honor of the greatest triumph of modern days.

The people of San Francisco pledged $7,500,000 by popular subscription, and $5,000,000 Exposition Bonds were voted by the municipality of San Francisco, and $5,000,000 were voted by the State, making a total of $17,500,000 as a start for a firm foundation for the World's Exposition.

THE FINANCIAL QUESTION has been answered by San Francisco, and she has much to offer besides the money.

SAN FRANCISCO presents to the world the greatest evidence of human energy ever seen; she presents the epitome of American spirit; she presents the most modern city of the world, built from ashes in the short space of four years; she presents in herself an exposition that is unequaled.

SAN FRANCISCO stands at the gateway of the commerce for which the commercial world is struggling, and at this gateway she holds the finest harbor in the world, in itself a playground where all the nations may unite in a grand pageant and naval display in honor of the opening of a new world's highway.

SAN FRANCISCO presents an unrivalled climate, where stress of weather is never known, and where through the entire duration of the Exposition, people will enjoy comforts unknown in any other city.

CALIFORNIA INVITES YOU TO THE EXPOSITION CITY, 1915

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CALIFORNIA

RESOURCES AND POSSIBILITIES

TWENTY-FIRST ANNUAL REPORT

OF THE

California Development Board

FOR THE YEAR 1910

Submitted as of March, 1911

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PUBLISHED BY THE

CALIFORNIA DEVELOPMENT BOARD

OFFICE AND EXHIBITION HALL
FERRY BUILDING, SAN FRANCISCO
UPPER FLOOR

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THE GOLDEN GATE. FORT SCOTT ON THE LEFT.

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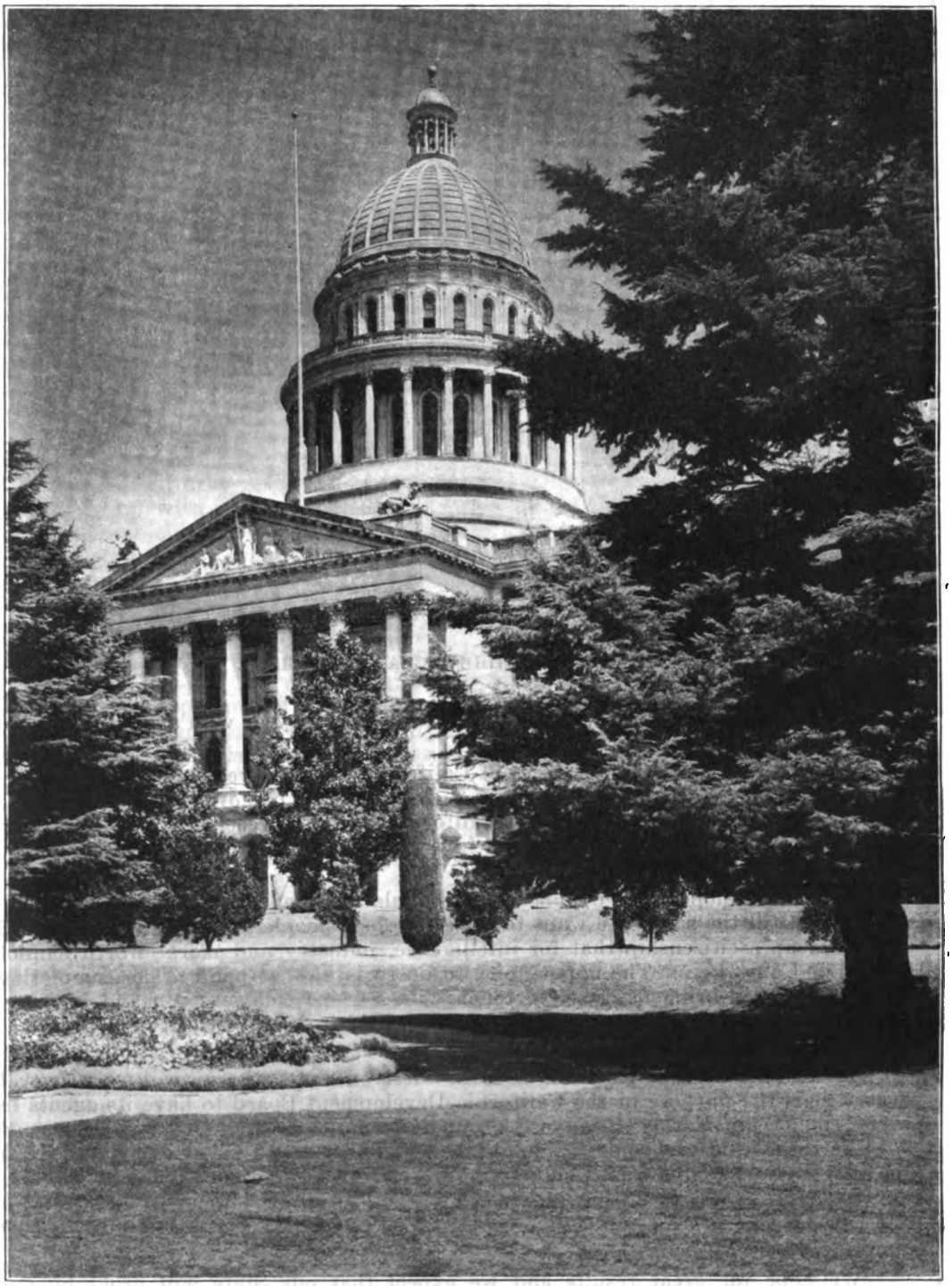

STATE CAPITOL, SACRAMENTO.

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CALIFORNIA DEVELOPMENT BOARD

THE FERRY BUILDING, SAN FRANCISCO.

The California Development Board closes its second year with a splendid record of things accomplished.

Never before have the resources of California been so well and so thoroughly advertised. Its efforts have not alone been confined to our own country, but have been world-wide. The result is that California to-day is receiving more attention from those who are seeking homes and investments than any other section of the United States or perhaps of the world.

The Pacific Slope needs population—a population that will settle in our fertile valleys and till the soil. We want to select the best people from all over the world and build up a citizenship that for intelligence, industry and moral worth cannot be excelled anywhere. The opportunity to do so is now at hand. The completion of the canal will bring us closer in touch with Europe commercially and in every other way. The International Exposition to be held in 1915 will invite to our State people from every nation.

Realizing the great advantages to be derived from these two great world events, it is the purpose of the California Development Board to have its agents in every country in Europe to advertise our State and the exposition and to encourage the right kind of people to immigrate to our shores. It will be our aim to reach the very best people, and particularly those who will settle upon our lands.

In carrying out this important work we will need, of course, the endorsement and co-operation of every civic body in the State, and also the necessary financial support of our citizens.

We hope for great results and we expect that our State will profit by our efforts. Our campaign will be educational, and we shall truthfully present the very best our State offers.

J. N. GILLETT.
President California Development Board.

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TWENTY-FIRST ANNUAL REPORT
OF THE
CALIFORNIA DEVELOPMENT BOARD

To the Members of the Board:

The California Development Board is entering upon the second year of its history, though it runs back in long and honorable service through many years in the life of the constituent organizations of which it is the amalgamation. The wisdom of uniting all the State promotion organizations in one body has been fully justified in the work of the past year. Complete harmony and united support has been the happy result and the entire energy of the one State central organization has been utilized in its proper functions and work. An organization of State-wide character must of necessity command the attention and respect of all other organizations and forces in the State, and must be equipped to do the largest and most general work of its character.

As a direct result of the amalgamation the work of the Development Board has become greatly broadened and made more comprehensive. As its name indicates, it is charged with the responsibility of the actual development of a great empire. It gathers up with painstaking accuracy the actual facts of the resources and attractions of our State and seeks to inform the world through every conceivable channel of publicity what the State has to offer to the homeseeker, tourist, the manufacturer and investor.

Work of the California Development Board. In order to serve with the greatest efficiency the proper objects and functions of the Board, the working force was organized into four departments. A review of the work of these departments will perhaps indicate in the best way what is conceived to be the functions of our organization. These departments are known as the Publicity Bureau, the Exhibit and Information Bureau, the Statistical Bureau, and the Organization Bureau.

Publicity Bureau. The Publicity work of the Development Board has greatly exceeded any work ever attempted by a like organization in the history of our State.

The Board was directly responsible for California representation at practically every convention, congress, or land show of National or Western character held during the year throughout the country. Vast quantities of literature were distributed at all these gatherings and competent lecturers presented the attractions of the State to hundreds of thousands of people.

Your Manager made an extensive Eastern trip in May, 1910, visiting important Eastern cities and made affiliations and started centers of influence on which to base a National publicity work. This visit was followed in August by a representative at the Knights Templar Conclave in Chicago. On this occasion our representative acted as press agent for the California delegation, maintained California headquarters at the Congress Hotel, delivered lectures to many thousands of people, and secured wide and favorable mention or our resources. In September the Board had a representative and State information booth at the Ohio Valley Exposition at Cincinnati. On this occasion 120,000 people attended the lectures on California. In addition to this, your Manager went East and conducted "California Day," which inaugurated this unique feature at such affairs. Wide publicity was obtained in the papers of that section, and an address on California was delivered to a single audience of 4,000. Seven hundred and fifty thousand people visited our information booth and large quantities of literature were distributed.

In November the Board maintained information booth and lectures at the United States Land and Irrigation Exposition at Chicago, organized the California

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exhibits and conducted "California Day." Several pages of display advertising were carried in the Chicago papers and 20,000 people were entertained by the Board, and products of California were distributed to all who came. Your Manager personally addressed successive audiences of 1500 during the entire day.

The Board also maintained an exhibit and lecture and also the characteristic "California Day" at the Western Land Products Exhibit held in Omaha in January. Thousands of loaves of raisin bread were distributed through the courtesy of the Fresno Chamber of Commerce, as a result of which Omaha bakeries are now supplying the public with large quantities of this California product.

The Board was also directly represented at the Grand Army Encampment at Atlantic City in September; at the Trans-Mississippi Commercial Congress at San Antonio, Texas; at the Gulf-to-Lakes Deep Waterway Congress at St. Louis, Mo.; at the National Irrigation Congress at Pueblo, Colo.; at the Pan-Pacific Travel Congress at Honolulu, T. H.; at the Rivers and Harbors Congress at Washington, D. C.; at the Pan-American Commercial Conference at Washington, D. C.; at the National Council of Grain Exchanges at Chicago, and at the Corn Exposition at Columbus, O. At all of these events the Development Board was not merely represented by Californians who happened to be in attendance, but sent its own official representatives and lecturers, who distributed quantities of literature and represented the interests of our State. Your Manager conservatively estimates that through the direct work of its Lecture Bureau 400,000 people heard our lecture on California, and that as a result of the above activities some 2,000,000 people came within the sphere of our influence. In addition, the California Development Board has equipped ten independent lecturers in the United States and two in England with slides on California, which are in constant use.

In California itself, the Development Board has been represented at all important gatherings, and has maintained lectures or sent representatives to such occasions as the Bankers' Convention in Los Angeles; the Pacific Congress at San Francisco, the Industrial and Pure Food Show at San Jose, the Watsonville Apple Annual, the Citrus Fair at Visalia, the Citrus Fair at Cloverdale, the Navy League Convention at Los Angeles, the State Fair at Sacramento, the Fruit Growers' Convention at Stockton, the Citrus Fair at Sacramento, the Pacific Land & Products Exposition at Los Angeles, and the First Annual Industrial and Food Exposition at Petaluma. At most of these places lectures were given and an Information Booth on California was maintained. The object of this publicity in California was threefold: First, to acquaint the people of our own State with its advantages; second, to induce people in California to communicate with the Development Board for the supplying of information to Eastern friends; and, third, to acquaint the people of the State with the exhibit rooms maintained by the Board at the Ferry Building in San Francisco.

A campaign of advertising has been carried on during the year in the Middle West. For a limited period all the agricultural periodicals carried our advertisement. Extensive advertisements were published in the Chicago papers and numerous other advertisements were inserted in special journals.

A great volume of publicity, however, has come from articles on California inspired or written by this organization, which cover newspapers and magazines throughout the country. These articles are too numerous to be listed in this report, but it can be safely said that the combined circulation of the various papers publishing our articles would be many million.

This Board has also furnished photographs and cuts about California for all sorts of organizations and newspapers.

As an indication of how far-reaching this work of publicity extends, your Manager furnished one interview on California while in St. Louis which was reproduced in 400 Middle West newspapers.

The Board has encouraged publicity in local San Francisco papers and the papers throughout the State without reference to the particular work of our Board. It is gratifying to note that the San Francisco daily papers are giving

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more space at the present time to exploitation and development matters than any other portion of the State.

The Board issues a bulletin of conditions on California month by month. Three hundred thousand of these bulletins have been issued during the year and are mailed regularly to similar organizations, newspapers, publicity officials, individual members, trade organizations throughout the world, consuls of the United States in foreign countries and libraries. A tremendous volume of publicity flows from this source alone.

The Board has just sent a special representative and lecturer to the International Exposition at Turin, Italy, to remain there for six months. This representative is equipped with quantities of California literature, slides, and a special pamphlet in Italian printed by this Board. A complete exhibit of California products was also sent. It will thus be seen that the publicity work of the Development Board is covering in a notable way the entire United States and a portion of Europe.

All of this publicity and the entire equipment of the Development Board, both in San Francisco and abroad, was used for the benefit of the Panama-Pacific International Exposition. In the five Eastern trips made by your Manager and the numerous trips made by lecturers of the Board, and the representation maintained at various Congresses and Conventions, our entire strength was given to aid the securing of this world's exposition to California. This Board recognizes the coming exposition as the greatest force for the immediate development of our State and is co-operating in every possible way with its exploitation.

Exhibit and Information Bureau. The Board maintains in the Ferry Building at San Francisco the greatest exhibit of State's products that has ever been maintained by any State in the Union. This exhibit has been completely refurnished and rehabilitated during the year and presents a most attractive and pleasing appearance. Over 250,000 people have visited this exhibit during the year and 30,000 have attended daily lectures which are maintained in the premises. A public Information Desk has been installed in the main body of the hall and visitors are courteously met and furnished with literature and information on all portions of the State. In addition to the products, our Board is equipped with large relief maps of the State with detailed county maps in convenient racks. Sixty thousand State maps were distributed in connection with our annual report, and 542,000 pieces of printed matter. A determined effort is being made to advertise and popularize this splendid exhibit. Beautiful posters are displayed in railway stations and in public places calling attention to this free exhibit in connection with the exhibit of the State Mining Bureau on the same floor. The daily papers of San Francisco carry an advertisement calling attention to our exhibit. Invitations are placed in room boxes of visitors in hotels in San Francisco to inspect our exhibit and an arrangement is made with the sight-seeing cars to terminate their trips with a visit to the exhibit.

A larger amount of fruit and finer specimens have been processed on the premises than ever before and has taxed the utmost facilities of this department. Splendid new stands have been erected for ten counties, and four new counties have been affiliated. A complete exhibit to fill the two cars of the North of Bay Counties Association was processed on the premises and shipped East, where they are being constantly exhibited to over 5,000 people weekly.

No charge is made for admission to the exhibit hall or for any publications or literature furnished by the Board. It is the policy of the Board to develop competent lecturers, splendid exhibits and lecture equipment in this department and to use them in the wider publicity work throughout the world.

Statistical Bureau. The least spectacular but not the least important feature of our work is our Bureau of Statistics. The present annual report is the fruit of a whole year's work of this department. This department is constantly engaged in collecting all accurate information in regard to the resources of our State and is in immediate touch with conditions and changes in every direction. It acts as a clearing house for all statistical bodies in the State and is the most completely equip-

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ped machine for this purpose in California. This department is called upon by banks, commercial agencies, railroads, newspapers, periodicals, and individuals for statistical matter, estimates of values and production of crops, and a range of information that is wide, varied and unexpected. Even a casual reading of this report will show how extensive and important are the activities of this department.

Bureau of Organization. This Bureau has been under the personal direction of the Manager and includes the affiliation of the California Development Board with all similiar organizations in the State, co-operation with all publicity and development activities, and the whole work of concentrating and developing the energies of all public bodies in the State. The Board encourages and personally supervises the formation of Chambers of Commerce in every city and hamlet of the State. It encourages the formation of district organizations; it encourages and supervises the county organizations in exhibit and publicity work. It works in cordial harmony and sympathy with colonization and publicity departments of railroads and with all advertising agencies and commercial firms where the propriety and policy of the Board permits such co-operation. There is being spent in California approximately a million and a half dollars per year on general California publicity, entirely apart from real estate and direct sale of any product. The Development Board is in a peculiarly favorable position to concentrate and utilize this publicity to the greatest advantage.

The Board held two notable meetings during the year, known as the Counties Committee meeting, at which representatives from all over the State met in Grass Valley in June, 1910, and in Oakland in January, 1911. The theme of the meeting in Oakland was "Methods of California Development" and experts along various lines elaborated on the various forces which are being used to build up this State, with the relations of civic and commercial organizations to such development. The full account of these meetings is contained in printed bulletins which are of great value.

The Department of Organization has arranged for a permanent and official affiliation of various organizations throughout the State. It is the purpose of this permanent organization to raise more directly the efficiency of local bodies and form plans of mutual co-operation and effectiveness in the common work. The development of this permanent affiliation is proceeding conservatively but surely and will form the basis for greatly increased work in the coming year.

General Work. The office force of the California Development Board is composed of trained and efficient experts. A vast amount of correspondence on State matters is attended to. During the year 60,000 letters have been written. The work of the office force is become highly specialized for the carrying on of our peculiar work. The general organization has been in vital touch with all movements concerning general development. A careful file is kept of articles of collateral interest in the press of the State. A large and complete library is maintained on the premises. The Executive Committee has dealt with public problems and has given or withheld its endorsement to many activities initiated elsewhere, but which affect the proper sphere of our influence. Legislation tending to the betterment of conditions or the general development of the State has received very careful attention. Attention has been paid to the entertainment of visitors during the year, particularly excursionists from the North and other points.

The financial condition of the Board is good and the work has been carried on well within the amount of money at our disposal. There should be, however, an increase of 50 to 100 per cent in the income of the Board in order to meet the tremendous possibilities of the immediate future.

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GROWTH AND DEVELOPMENT OF THE STATE.

The returns of the thirteenth census, while most gratifying to everyone interested in California, were not surprising to those who studied the steady movement of homeseekers toward the West and into the State.

In 1900, twenty States ranked ahead of California in population. In 1910, but eleven stood before her. In the ten-year period she had outstripped nine of them, taking twelfth place.

The increase during the last decade has not been gained under the impulsion of a desire to participate in the golden harvest of rich placers, that caused the rush of earlier years from all over the world, but has been steady, substantial and permanent homeseekers desiring to live under the beneficent conditions to be found in California.

This increase may be better realized by a comparison with that of previous decades.

Years.	Population.	Years.	Population.
1850	92,597	1890	1,208,130
1860	379,994	1900	1,485,053
1870	560,247	1910	2,377,549
1880	864,694		

The rate of increase from 1900 to 1910 was 60.1, larger than that of any state outnumbering her in population, while the actual increase, 892,496, was greater than any with a larger percentage of increase.

Density of Population.

The increase in the density of population per square mile in the same periods more clearly illustrates the wonderful growth of the population of California. It is as follows:

Years.	Density.	Years.	Density.
1850	0.6 per square mile	1890	7.8 per square mile
1860	2.4 per square mile	1900	9.5 per square mile
1870	3.6 per square mile	1910	15.2 per square mile
1880	5.5 per square mile		

There is a density of but 15.2 persons to the square mile.

That California is able to support a population far greater than she now has, is evidenced by the appended table, giving the average number of inhabitants per square mile in ten States and the number California would have with the same density of population.

State.	Average Number People to Square Mile.	Population California with Same Density.
Rhode Island	508.5	79,350,000
Massachusetts	418.8	65,324,400
New Jersey	337.7	52,673,500
Connecticut	221.3	34,527,750
New York	191.2	29,823,350
Pennsylvania	171.0	26,872,600
Maryland	130.3	20,324,200
Ohio	117.0	18,267,650
Delaware	103.0	16,096,000
Illinois	100.7	15,707,200

The San Joaquin Valley with 7,000,000 acres, and the Sacramento Valley with 4,000,000 acres of rich agricultural land, can give to 550,000 families a farm of 20 acres each, ample for their sustenance, to say nothing of the Santa Clara, Napa, Sonoma and other rich valleys throughout the State.

The actual increase and the percentage of increase during the decade by counties is shown by the following:

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LIST OF COUNTIES AND POPULATION IN 1910 AND 1900, WITH PERCENTAGE OF INCREASE OR DECREASE—COUNTIES' PROGRESS AS TOLD BY THE CENSUS.

Counties.	1910.	1900.	Percent of Increase, 1900-1910.
Alameda	246,131	130,197	89.0
Alpine	309	509	—39.2
Amador	9,086	11,116	—18.2
Butte	27,301	17,117	59.4
Calaveras	9,171	11,200	—18.1
Colusa	7,732	7,364	4.7
Contra Costa	31,674	18,046	75.4
Del Norte	2,417	2,408	0.3
El Dorado	7,492	8,986	—16.5
Fresno	75,657	37,862	99.8
Glenn	7,172	5,150	39.2
Humboldt	33,857	27,104	24.9
Imperial	13,591	.....	....
Inyo	6,974	4,377	59.4
Kern	37,715	16,480	128.0
Kings	16,230	9,871	64.4
Lake	5,526	6,017	—8.1
Lassen	4,802	4,511	8.6
Los Angeles	504,131	170,296	196.0
Madera	8,368	6,364	31.3
Marin	25,114	15,702	59.0
Mariposa	3,956	4,720	—16.2
Mendocino	23,929	20,465	17.4
Merced	15,148	9,215	64.4
Modoc	6,191	5,076	21.9
Mono	2,843	2,167	31.6
Monterey	24,146	19,380	24.6
Napa	19,800	16,451	20.6
Nevada	14,955	17,789	—15.9
Orange	34,436	19,696	74.8
Placer	18,237	15,786	15.1
Plumas	5,259	4,657	12.9
Riverside	34,696	17,897	93.9
Sacramento	67,806	45,915	47.6
San Benito	8,041	6,633	21.2
San Bernardino	56,706	27,929	103.0
San Diego	61,665	35,090	75.8
San Francisco	416,912	343,782	21.6
San Joaquin	50,731	35,452	43.1
San Luis Obispo	19,383	16,637	16.5
San Mateo	26,585	12,094	119.8
Santa Barbara	27,738	18,934	45.4
Santa Clara	83,539	60,216	38.7
Santa Cruz	26,140	21,512	21.0
Shasta	18,920	17,318	0.9
Sierra	4,098	4,017	0.2
Siskiyou	18,800	16,962	10.9
Solano	27,559	24,143	14.5
Sonoma	48,394	38,480	25.8
Stanislaus	22,522	9,550	136.7
Sutter	6,328	5,886	7.5
Tehama	11,401	10,996	3.7
Trinity	3,301	4,383	—24.7
Tulare	35,440	18,375	93.4
Tuolumne	9,979	11,166	—10.6
Ventura	18,347	14,367	27.7
Yolo	15,926	13,618	16.9
Yuba	10,042	8,620	16.5
California	2,377,549	1,485,053	60.1

The following tables showing the Counties of the four leading sections of the State give some instructive figures for comparison of the growth of each section:—

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BAY COUNTIES.

	Population.		Increase.		Square Miles.	Population Per Square Mile.		
	1910.	1900.	Amount.	Per Cent		1910.	1900.	Increase
San Francisco	416,912	342,782	74,130	21.6	47	8870.0	7293.2	1576.8
Alameda	246,131	130,197	116,061	89.0	764	321.9	170.4	151.5
Contra Costa	31,674	18,046	13,682	75.4	728	43.5	24.8	18.7
Solano	27,559	24,143	3,416	30.6	900	30.6	26.8	3.8
Napa	19,800	16,451	3,349	20.6	780	25.4	21.1	4.1
Sonoma	48,394	38,480	9,914	25.8	1,620	29.9	23.8	6.1
Marin	25,114	15,702	9,412	59.0	549	45.8	30.4	15.4
San Mateo	26,585	12,094	14,491	119.8	434	61.3	27.9	33.4
Santa Clara	83,539	60,261	23,278	38.7	1,286	64.9	46.8	18.1
	925,708	658,156	267,552	40.6	7,108	130.2	92.6	27.6

SOUTH OF TEHACHAPI.

	Population.		Increase.		Square Miles.	Population Per Square Mile.		
	1910.	1900.	Amount	Per Cent		1910.	1900.	Increase
Los Angeles	504,131	170,289	233,833	196.0	4,202	119.9	40.5	79.4
Santa Barbara	27,738	18,934	8,804	45.4	2,636	10.5	7.2	3.3
Ventura	18,347	16,697	3,980	27.7	1,721	10.6	8.3	2.5
Orange	34,436	19,696	14,740	74.8	750	45.9	26.2	19.7
San Diego	61,665				4,207	14.6		
	.....	35,090	40,116	114.4	....	...	4.1	4.7
Imperial	13,591				4,316	3.1		
San Bernardino	56,706	27,927	28,779	103.0	19,947	2.8	1.4	1.4
Riverside	34,696	17,897	16,799	93.9	7,323	4.7	2.4	2.3
	751,310	304,209	447,101	146.9	45,102	16.6	6.7	9.9

SACRAMENTO VALLEY.

	Population.		Increase.		Square Miles.	Population Per Square Mile.		
	1910.	1900.	Amount	Per Cent		1910.	1900.	Increase
Sacramento	67,806	45,912	21,891	47.6	1,000	67.8	45.9	21.9
Yolo	15,926	13,618	2,308	16.9	996	16.0	13.7	2.3
Sutter	6,328	5,886	442	7.5	622	10.1	9.4	.7
Colusa	7,732	7,364	368	4.7	1,088	7.1	6.7	.4
Glenn	7,172	5,150	2,022	39.2	1,270	5.6	4.1	1.5
Tehama	11,401	10,996	405	3.7	3,008	3.7	3.6	.1
Butte	27,301	17,117	10,184	59.4	1,660	16.4	10.3	6.1
Yuba	10,042	8,620	1,422	16.5	636	15.8	13.4	2.4
	153,708	114,656	39,042	34.6	10,280	14.9	11.1	3.8

SAN JOAQUIN VALLEY.

	Population.		Increase.		Square Miles.	Population Per Square Mile.		
	1910.	1900.	Amount	Per Cent		1910.	1900.	Increase
San Joaquin	50,731	35,462	15,269	43.1	1,396	36.4	26.1	10.3
Stanislaus	22,522	9,550	12,972	136.7	1,456	15.5	6.5	9.0
Merced	15,148	9,215	5,933	64.4	1,932	7.8	4.8	3.0
Madera	8,368	6,364	2,004	31.4	2,062	4.1	3.1	1.0
Fresno	75,657	37,862	37,795	99.8	6,152	12.3	5.8	6.5
Kings	16,230	9,871	6,359	64.4	1,176	13.7	8.4	5.3
Kern	37,715	16,480	21,235	128.8	8,050	4.7	2.0	2.7
Tulare	35,440	18,375	17,065	93.4	4,925	7.2	3.7	4.4
	261,811	143,179	118,632	80.2	27,176	9.7	5.3	4.4

SUMMARY OF THE STATE.

	Population.		Increase.		Square Miles.	Population Per Square Mile.		
	1910.	1900.	Amount.	Per Cent		1910.	1900.	Increase
Bay Counties	925,708	658,156	267,552	40.6	7,108	130.2	92.6	37.6
South of Tehachapi	751,310	304,209	447,101	146.9	45,102	16.6	6.7	9.9
Sacramento Valley	153,708	114,656	39,052	34.6	10,280	14.9	11.1	3.8
San Joaquin Valley	261,811	143,179	118,632	80.2	27,176	9.7	5.3	4.4
Rest of the State	285,012	264,853	20,159	7.6	66,506	4.2	3.8	.4
	2,377,549	1,485,053	892,496	60.1	156,172	15.2	9.5	5.7

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This segregation shows that the greatest gain per square mile has been in the counties about San Francisco Bay, while the greatest aggregate gain and the greatest rate of increase has been south of the Tehachapi.

Of the two great interior valleys, the San Joaquin Valley has made the greatest aggregate gain, 118,632, and the greatest gain per cent, 80.2; while the Sacramento Valley made an aggregate gain of 39,042, and a gain per cent of 34.6.

The remaining counties of the State, twenty-five in number, show an aggregate gain of 20,159, and a net gain of 7.6 per cent.

Irrigation, the development of agricultural lands, and the development of bountiful oil fields of the State, have been the main factors in attracting homeseekers and investors.

POPULATION OF CITIES OVER 5,000.

	1910	1900
Alameda	23,383	16,464
Alhambra	5,021	.....
Bakersfield	12,727	4,836
Berkeley	40,434	13,214
Eureka	11,845	7,327
Fresno	24,892	12,470
Long Beach	17,809	2,252
Los Angeles	319,198	102,479
Marysville	5,430	3,497
Napa	5,791	4,036
Oakland	150,174	66,960
Pasadena	30,291	9,117
Petaluma	5,880	3,871
Pomona	10,207	5,526
Redlands	10,449	4,797
Richmond	6,802	.....
Riverside	15,212	7,973
Sacramento	44,696	29,282
San Bernardino	12,779	6,150
San Diego	39,578	17,700
San Francisco	416,912	342,782
San Jose	28,946	21,500
San Luis Obispo	5,157	3,021
San Rafael	5,934	3,879
Santa Ana	8,429	4,933
Santa Barbara	11,659	6,587
Santa Cruz	11,146	5,659
Santa Monica	7,847	3,057
Santa Rosa	7,817	6,673
Stockton	23,253	17,506
Vallejo	11,340	7,965
Total	1,314,037	739,513

Being a gain for the thirty-one cities having over 5,000, of 574,524, out of a total gain for the whole State of 892,596, leaving 318,072 for the rural districts. In Los Angeles and Alameda Counties, which had the greatest increase of population, being 233,833 and 116,061 respectively, the three cities of Los Angeles, Pasadena and Long Beach, in Los Angeles County, had an aggregate increase of 253,450, while Oakland, Berkeley and Alameda, in Alameda County, had an aggregate increase of 117,253.

THE GAIN ON THE PACIFIC SLOPE.

While the gain in population for the whole of the Continental United States was 15,977,691, an increase of 21 per cent, the eleven States of the Pacific Slope, as given in the table below, show an aggregate increase of 2,734,567, an increase of 66.8 per cent.

The combined area is 1,175,742 square miles, which makes an average population per square mile of 5.8 per cent, while the average population per square mile for the Continental United States is 30.9 persons.

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PACIFIC SLOPE STATES.

	Population.		Increase.		Square Miles.	Population Per Square Mile.		
	1910.	1900.	Amount	Per Cent.		1910.	1900.	Increase
Montana	376,053	243,329	132,724	54.5	145,310	2.6	1.7	.9
Wyoming	145,965	92,531	53,434	56.8	97,575	1.5	.9	.6
Colorado	799,024	539,700	259,324	48	103,645	7.5	5.2	2.3
New Mexico	327,396	195,300	132,086	67.6	122,460	2.7	1.6	1.1
Arizona	204,354	122,931	81,423	66.2	112,920	1.8	1.1	.7
Utah	373,351	276,749	96,602	34.9	82,190	4.5	3.4	1.1
Nevada	81,875	42,335	39,530	93.4	109.740	.8	.4	.4
Idaho	325,594	161,772	163,822	101.3	84,290	3.9	1.9	2
Washington	1,141,990	518,103	623,887	120.4	66,880	17	7.7	9.3
Oregon	672,765	413,536	259,229	62.7	94,560	7.1	4.4	2.7
California	2,377,549	1,485,053	892,496	60.1	156,172	15.2	9.5	2.7
	6,825,916	4,091,349	2,734,567	66.8	1,175,742	5.8	3.4	2.4

Expansion of Agricultural Industries. The development of the agricultural resources of the State is exhibited in the following tables, comparing the acreage sown to certain crops in 1862 with those of 1910.

	1862. U. S. Com. Agr. Report.	1910. State Board of Equalization Rep.	
	Acres.	Acres.	
Indian Corn	17,339	56,140	
Wheat	361,351	1,107,934	
Rye	1,415	20,220	
Oats	36,607	282,517	
Barley	223,217	1,871,356	
Hay	250,464	1,407,690	
Potatoes	3,624	86,938	
Totals	914,786	4,832,995	
Add acreage of following, not mentioned in report of 1862:			
Hops		8,225	
Celery		4,335	
Beans		147,933	
Standing Alfalfa		374,000	
Cotton		12,000	
Sugar Beets		72,000	618,493
Total			5,454,288

Besides this increase in acreage of the staple crops, California had, according to the report of the State Board of Equalization, vines and fruit trees as follows, bearing and not bearing, in 1910:

VINEYARDS.

	acres.
Table Grapes	53,729
Raisin Grapes	128,217
Wine Grapes	160,573

ORCHARDS.

Deciduous Fruits—	No of Trees.	Citrus Fruits—	No. of Trees.
Apple	2,143,815	Orange	10,803,221
Apricot	2,593,884	Lemon	1,810,616
Cherry	601,520	Pomelo	18,886
Fig	549,875	Lime	1,716
Nectarine	63,773		
Olive	1,190,452	Total	12,634,439
Peach	10,922,994		
Pear	1,499,932	Nuts—	
Plum	1,059,453	Almond	1,204,382
Prune	8,998,831	Walnut	891,147
Total	19,624,529	Total	2,095,529

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Deciduous	19,624,529
Citrus	12,634,439
Nuts	2,095,529
Grand total	34,354,497

GROWTH IN ASSESSED VALUES.

	1850	1862	1910
Assessed value of all property in State....	$57,670,689	$160,369,071	$2,373,897,092

To show the changes in farming districts in recent years, which changes are still going on, the following exhibit is submitted:

This is made up from U. S. Census Reports and shows the development in agricultural lines since California became a State.

Size.	Number of Farms. 1890.	1900.
Under 10 acres	2,827	6,846
10 and under 20	4,010	8,236
20 and under 50	7,691	13,110
50 and under 100	5,196	8,067
100 and under 175	....	13,196
175 and under 500	24,534	13,005
500 and under 1000	4,367	5,329
1000 and over	3,672	4,753
Average size	405	397.4

Year.	Population of State.	No. Farms
1850	92,597	872
1860	379,994	18,716
1870	560,247	23,724
1880	864,694	35,934
1890	1,208,130	52,814
1900	1,485,053	72,542
1910	2,377,549	Est.112,000

	1850.	1900	Increased.
Number of Farms	872	72,542	83 fold
Number of acres in Farm Lands	3,894,000	28,829,000	8 fold
Number of acres in Farm Lands (imp.)	82,400	11,919,000	393 fold

	1850.	1900.
Value of all Farm Property	$7,399,000	$1,163,000,000

Of the 72,542 farms in 1900, there were operated by

		Per Cent of Total
Owners	55,782	76.9
Cash Tenants	9,074	12.5
Share Tenants	7,686	10.6

		Per Cent of Total.
Whites	70,935	97.8
Negroes	135	2.2
Indians	758	
Mongolians	814	

The number and the proportion of owners operating their own holdings is much larger for 1910 than 1900, but details are not yet obtainable.

Progress in the Metropolis. The fifth anniversary of the great disaster of April, 1906, finds few vestiges of the ruin then wrought. A new city of imposing modern structures occupies the ground where before stood the many examples of architectural variety evolved during the last half of the nineteenth century.

San Francisco has won the admiration and wonder of the world by the courage and energy of her rebuilding, and stands to-day more fit than ever to occupy her proper place among the great cities of the world.

The disaster marked the beginning of a new era and made it possible to modernize a city which represents sixty-one years of growth. Already what was at the time regarded as an overwhelming calamity has brought its benefits. The confidence of her people has been justified and the promise of greater prosperity for the future is hers.

To this prosperity the whole State contributes and in it shares.

San Francisco can now claim to be, in character and equipment of her new structures, the most up-to-date city in the world. She is now authorized by the Federal Government to invite the nations of the world to come and see for themselves when she opens the **Panama-Pacific International Exposition in 1915.**

The buildings erected since the fire represent a cost greater than those which were destroyed. The following is the official record:

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BUILDING CONSTRUCTION—PRIVATE CAPITAL.

Building Permits granted in San Francisco from April, 1906, to January 1, 1910:

Class A	94	Buildings	$21,547,260
" B	118	"	8,470,871
" C	1,585	"	48,775,267
Frames	14,534	"	59,958,224
Alterations	8,295	"	10,622,027
Total	24,626	"	$149,373,649
Adding 15% for undervaluation			22,406,047
Total			$171,779,696

Building activity still continues, as the figures for 1910 show.

FOR 1910.

Class A	23	Buildings	$3,380,000.00
" B	17	"	786,000.00
" C	250	"	7,060,350.00
Frames	2,417	"	8,007,152.00
Alterations	2,983	"	1,275,054.00
Total	5,690	"	$20,508,556.00
Adding 15% for undervaluation			3,076,283.40
Total			$23,584,839.40
Total buildings as above from April 18, 1906, to December 31, 1909	24,626	Buildings	171,779,696.00
Grand Total	30,316	"	$195,363,535.00

The increase over the figures for 1909, viz.: $23,583,839, indicates most strongly the continuance and importance of the building operations. The number of buildings destroyed in the fire was 28,188, valued at $105,000,000. There have been 2,128 more buildings, of a far better class erected since the fire and of nearly double the value of those destroyed.

The money expended by private parties for labor on new buildings amounts to some $66,000,000, while the municipality has made large expenditures on the same account.

Though San Francisco has always beeen famous for its hotels, it has added largely to the number and size and now has some of the finest and best equipped hostelries in the country, and can demonstrate its ability to comfortably house any number of visitors that may be drawn within her gates at any one time.

The hotels number over 320, with nearly 30,000 rooms, and accommodations for 60,000 guests at one time. There are also over 300 apartment houses and over 500 lodging houses, in which a large share of the floating population find shelter.

New hotels, apartment houses and lodging houses are under construction, and the number will be greatly augmented. By the time of the opening of the Panama-Pacific International Exposition, San Francisco will be in a position to sustain her prestige for care of her visitors in the face of multitudes that will be drawn to the city on that notable occasion.

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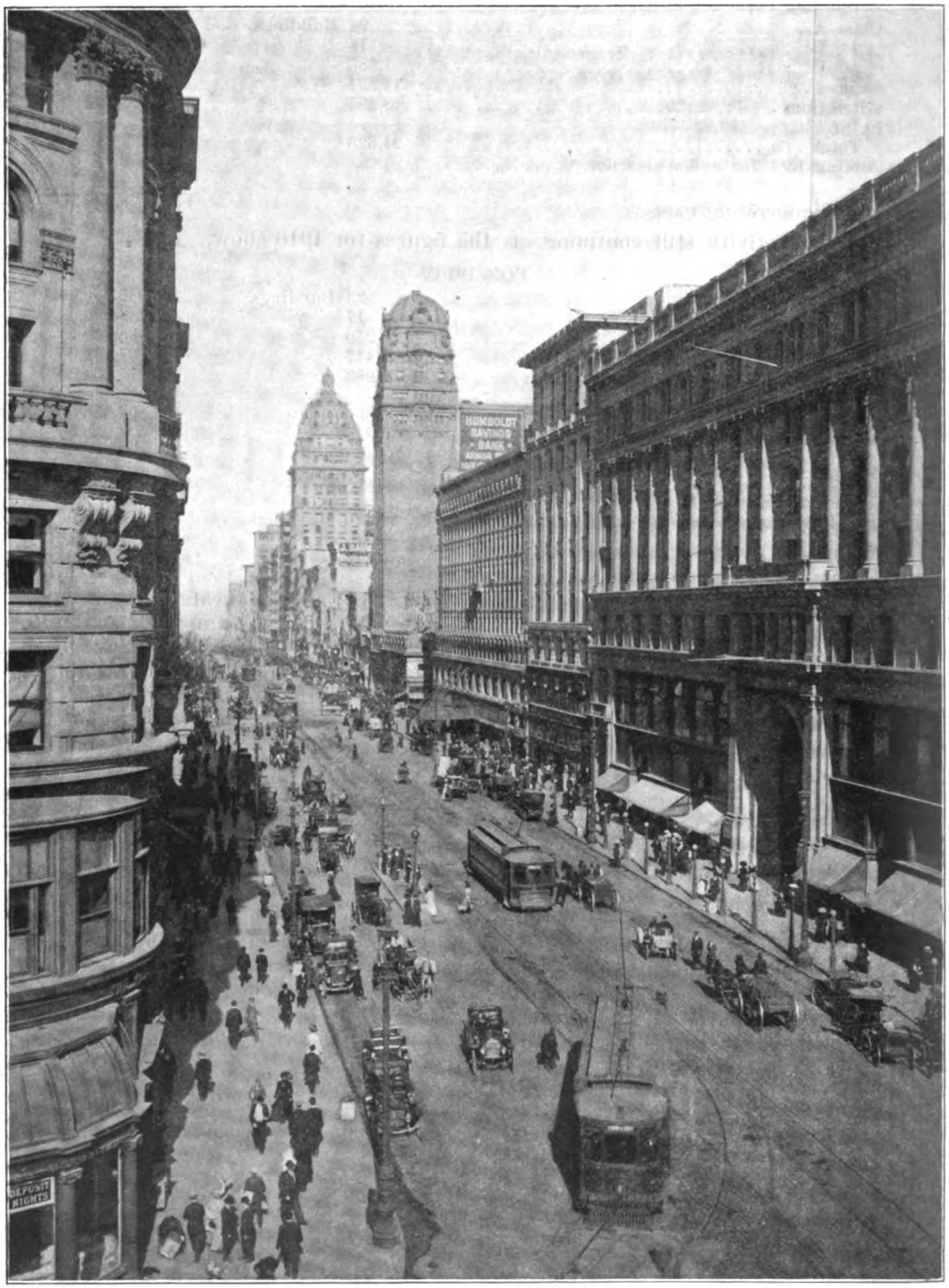

MARKET STREET, SAN FRANCISCO.
From Powell Street, looking toward the Ferry.

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The growth in building activities has not been confined to the metropolis, as the following exhibit for Los Angeles, Oakland and other leading cities of the State shows:

		Valuation.			Valuation.
Los Angeles	1905		Sacramento	1906	$ 994,811
	1909	$13,260,703		1909	2,063,394
	1910	21,684,100		1910	2,164,456
Oakland	1906	4,445,692	Pasadena	1905	$1,953,532
	1909	5,318,512		1909	1,888,826
	1910	6,695,789		1910	2,133,528
San Diego	1905	1,193,170	San Jose	1905	$ 908,525
	1909	2,632,100		1909	1,195,280
	1910	4,005,200		1910	1,750,000

BUSINESS RECORD AND METROPOLITAN AREA.

The population of San Francisco, as seen by census returns, is 416,912. The population residing in the metropolitan area, with less than an hour's ride of the city, may be conservatively said to be 900,000 people.

While the population of the city has largely increased, the amount of public business and general industrial movement have kept pace with it, as is indicated by the following exhibit:

Postal receipts	$ 2,488,222.54
Internal Revenue receipts	6,827,827.74
Mortgages and Releases	44,899,847.00
Real Estate sales	31,291,293.00
Imports	51,000,000.00
Exports—	
Foreign	34,500,000.00
Non-contiguous territory of United Sta es	17,750,000.00
Custom receipts	7,125,711.00
Tonnage Movement for fiscal year ended June, 1910	5,306,134.00

ORIENTAL TRADE
For Fiscal Year Ended June 30, 1910.

Philippines	$ 5,008,347.00
China	1,636,818.00
Japan	6,931,793.00
Asiatic Russia	107,884.00
Total	$13,684,842.00

Harbor Improvements Planned. The important improvements along the waterfront under the $2,000,000 State bond issue of 1904 have been pushed vigorously, and shipping facilities have been greatly increased. These improvements are but the beginning of those projected and provided by State bonds to the amount of $9,000,000 authorized in 1910. At the same time $1,000,000 bonds were voted for the acquisition of Islais Creek lands for an inland basin.

Within the next four years, by the time of the opening of the Panama-Pacific International Exposition in 1915, these extensions and improvements will be completed, giving San Francisco a wharfage line of 44.5, not including Channel Creek and the three large basins. A belt road connecting the piers with the transcontinental railway lines, will furnish ideal facilities for handling the commerce of the port.

San Francisco deservedly ranks as one of the Great Cities of the World. She is a Great City by reason of her position and power in the social, commercial and financial world. San Francisco is pre-eminently a commercial city. It is a foreign and domestic market without a peer on the Pacific Coast. The city has all the advantages of location possessed by any of the great commercial centers of the world. It is situated on the north end of a peninsula, six miles wide and twenty miles long, separating San Francisco Bay from the Pacific Ocean.

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As a seaport it receives the commercial drainage of a region that has the greatest variety of natural resources of any part of the earth. That drainage is the great inextinguishable, economic fact that rebuilt San Francisco after the catastrophe of 1906 on greater lines than before. It was economic pressure that forced and inspired the energies which have made a new city that is the wonder of the world.

The Commerce of the Bay. The great seaport of Pacific America, with constantly expanding commerce demands ever-widening facilities for handling it. Fortunately this demand is being met by San Francisco and Oakland, the two great cities of the bay region. Formerly there was danger that much of our commerce would be alienated by the lack of adequate port and dock facilities. This risk is no longer imminent. The San Francisco Harbor Commissioners, watchful of the needs of trade, are wisely expanding its facilities on the waterfront within their jurisdiction. But when they have done all within their power, the expansion of commerce will not stop, and to meet it Oakland is wisely and watchfully moving to develop her splendid waterfront to secure deep water to accommodate the largest ships and to meet commerce by water and rail facilities that will give trade a line of least resistance.

The Oakland waterfront is a great asset of the Pacific trade, and its improvement now planned and in progress means that the commerce of all time is to have on San Francisco Bay every advantage that natural situation justifies and that enlightened public enterprise can supply.

For that improvement Oakland has voted a bond issue of $3,500,000, and the grantees of that city are beginning the expenditure of $16,000,000 additional on the western and southern waterfront. When these improvements are completed Oakland will offer facilities which may well rank with those of Hamburg, Havre, The Hague and Liverpool.

Hereafter, then, there need be no fear that any ship, however great her tonnage or deep her draught, will fail of accommodation in this bay, or that any cargo, in or out, will lack the latest and most economical device for handling and transfer. The same spirit is upon both cities, not in rivalry, but with the determination that this seaport, intended by nature to be one of the world's greatest, shall by art and enterprise fulfill its destiny.

FINANCIAL CONDITIONS IN CALIFORNIA.

The following exhibit by E. F. Adams, Esq., of financial conditions in the State at the close of the last fiscal year, June 30, 1910, shows California finances to be in a very healthy condition:

STATE COMMERCIAL BANKS, JUNE 30, 1910, INCLUDING TRUST COMPANIES.

	Loans.	Individual deposits.	Ratio of dep. to loans. per cent.	Cap., sur. & undivided profits.	Ratio of cap. & sur. to dep. p. c.
California	$110,871,361	$121,665,205	109.73	$52,506,712	43.16
San Francisco	31,339,587	36,608,947	116.81	15,024,293	41.04
Los Angeles	10,355,310	11,356,039	109.66	5,507,906	48.50
California, less San Francisco and Los Angeles	69,176,464	73,700,219	106.68	31,974,813	42.02

CALIFORNIA NATIONAL BANKS, JUNE 30, 1910.

	Loans.	Individual deposits.	Ratio of dep. to loans. per cent.	Cap., sur. & undivided profits.	Ratio of cap. & sur. to dep. p. c.
California	$217,628,496	$212,521,069	97.65	$87,573,369	41.20
San Francisco	106,988,712	85,339,612	79.76	50,231,668	58.86
Los Angeles	35,325,038	36,445,150	103.18	11,092,407	30.13
California, less San Francisco and Los Angeles	75,314,745	90,736,290	120.47	26,249,294	28.03

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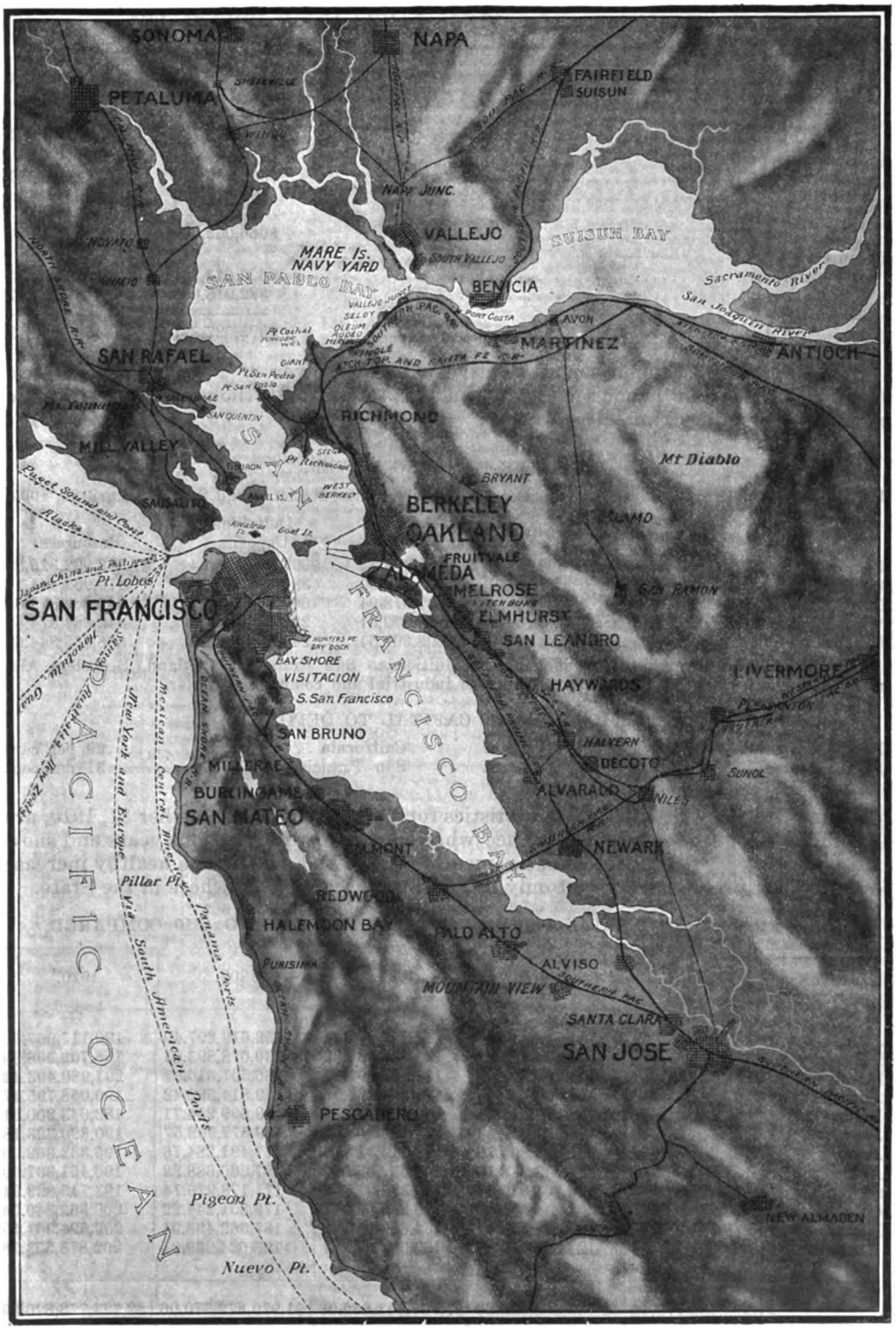

SAN FRANCISCO BAY AND VICINITY.

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STATE, NATIONAL AND SAVINGS BANKS AS OF JUNE 30, 1910.

Capital, Surplus and Profits—	California.	San Francisco.
Commercial	$140,080,081	$ 65,255,961
Savings	37,688,709	15,395,860
Total	$177,668,790	$ 80,651,821
Individual Deposits—		
Commercial	$334,386,265	$121,948,557
Savings	331,615,814	159,866,419
Total	$666,002,079	$281,814,976
Resources—		
Commercial	$620,613,741	$277,387,425
Savings	372,915,636	175,596,447
Total	$993,527,377	$452,983,872

The following comparison of relative banking power of Pacific Coast States, California and San Francisco, is of much interest, and though prepared some months ago is approximately correct:

RELATIVE BANKING POWER.

Pacific States, California and San Francisco—All Banks, State, National and Savings, April 28, 1909.

	Capital, Surplus and Profits.	Individual Deposits.	Resources.
Pacific States	$244,260,398.74	$897,099,158.94	$1,313,922,320.82
Pacific States, except California	77,423,319.80	336,112,844.92	470,952,441.17
California	166,837,078.94	560,986,314.02	842,969,879.65
*San Francisco metropolitan area	85,765,572.51	287,775,650.10	442,264,874.68
San Francisco	77,698,307.51	244,275,241.10	388,835,844.68

*San Francisco metropolitan area includes, in addition to San Francisco, Oakland, Berkeley, Alameda and South San Francisco, constituting one industrial and commercial center.

RATIO OF BANK CAPITAL TO DEPOSITS.

Pacific States	27 per cent
Pacific States, except California	23 per cent
California	29 per cent
San Francisco	31 per cent

Clearing House Exhibits. Clearing house statistics for the year ended December 31, 1910, are of much significance when compared with previous years and show that business has gained in volume and evidences a healthy increase over the last previous year, not only in San Francisco, but elsewhere in the State.

SAN FRANCISCO CLEARING HOUSE EXHIBIT FOR 1906 TO 1910 COMPARED.

Month.	1906.	1907.	1908.	1909.	1910.
January	$ 185,519,862.09	$ 204,512,323.10	$ 147,763,112.04	$ 152,619,297.49	$ 190,117,967.52
February	156,271,911.56	194,294,366.93	128,006,385.32	130,678,393.61	166,709,308.39
March	199,665,648.33	200,558,251.65	133,514,197.29	166,507,616.37	201,980,493.42
April	*107,847,591.36	198,035,735.38	140,364,763.08	159,814,592.42	190,058,795.17
May	**50,620,020.87	188,809,919.71	130,439,997.35	149,899,254.71	182,643,200.21
June	132,615,554.48	168,591,327.38	137,096,068.98	159,677,992.57	190,890,323.18
July	163,268,204.46	182,833,805.76	153,112,317.72	171,491,284.76	195,333,362.00
August	188,465,609.49	183,343,978.10	148,557,682.70	157,266,688.22	196,461,337.00
September	185,499,838.13	169,804,815.37	149,375,975.70	171,178,976.74	193,745,829.24
October	206,989,793.02	201,241,688.01	170,825,027.47	179,551,244.22	209,362,340.53
November	218,367,350.77	117,528,161.48	154,689,236.62	187,562,498.94	203,594,361.15
December	203,269,394.90	124,329,252.93	163,397,085.81	193,624,230.01	202,875,553.18
	$1,998,400,779.46	$2,133,883,625.80	$1,757,141,850.08	$1,979,872,570.06	$2,323,772,870.99

*14 days. **21 days.

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The bank clearings of San Francisco have more than doubled since 1900. The record of advancement in the previous ten years is as follows:

Year.	Clearings.	Balances.	Days.	Average Daily Clearings.
1900	$1,029,582,594.78	$118,157,405.71	303	$3,397,962.36
1901	1,178,169,536.30	138,515,989.73	304	3,875,557.68
1902	1,373,362,025.31	166,234,644.08	303	4,532,547.94
1903	1,520,200,682.07	177,810,822.37	305	4,984,264.53
1904	1,534,631,136.73	170,617,891.90	305	5,031,577.49
1905	1,834,549,788.51	187,250,604.74	304	6,034,703.25
1906	1,998,400,779.06	217,625,954.70	288	6,938,891.59
1907	2,133,882,625.80	209,800,867.05	304	7,019,350.74
1908	1,757,151,850.08	179,197,342.26	304	5,780,071.87
1909	1,979,872,570.06	189,659,255.04	303	6,534,232.90
1910	2,323,772,870.99	241,739,742.93	301	7,720,175.65

BANK CLEARINGS FOR LOS ANGELES FROM 1900 TO 1910.

1900	$122,692,555.55	1906	$578,635,516.82
1901	161,466,671.54	1907	581,803,982.00
1902	245,516,094.85	1908	505,588,756.02
1903	307,316,530.90	1909	673,165,728.81
1904	345,343,956.35	1910	811,387,487.47
1905	478,985,298.40		

Clearings of Oakland Banks.

The following table shows the clearings of the State and National banks of Oakland by months for the year 1910, compared with the figures for 1907, 1908 and 1909 and those of 1906, after the great fire in San Francisco in April, 1906, which forced much business across the bay:

Month.	1906.	1907.	1908.	1909.	1910.
January	.....	$ 17,302,600.11	$ 6,544,056.38	$ 7,831,461.91	$ 9,636,636.30
February	.....	15,753,647.15	5,628,509.38	6,699,310.07	12,038,510.90
March	.....	15,181,972.36	6,149,777.81	8,077,923.72	15,071,417.69
April	.....	13,946,556.83	6,199,228.26	7,801,905.92	13,146,947.25
May	$ 14,552,984.32	12,635,130.42	5,743,424.64	7,737,935.62	12,675,519.20
June	16,039,430.90	10,856,077.71	5,980,398.98	8,259,001.95	12,400,320.36
July	15,826,707.92	10,880,058.21	6,823,767.70	8,766,237.67	13,663,909.47
August	15,663,587.57	10,130,573.93	6,271,931.94	7,974,310.71	12,887,011.64
September	12,809,454.23	10,496,360.40	6,299,960.18	8,062,173.79	13,159,179.38
October	15,890,985.86	11,348,490.56	7,317,519.54	7,866,041.30	13,990,656.62
November	14,332,584.94	6,210,924.75	6,425,664.75	8,413,337.01	13,334,039.26
December	15,737,631.09	5,673,646.55	7,463,553.43	9,037,448.42	15,476,540.85
	$120,853,366.83	$140,416,038.98	$76,847,792.99	$96,527,088.09	$157,480,688.92

Bank Clearings of Other Cities.

SACRAMENTO.

1909	$54,512,723.22
1910	70,870,997.13

SAN DIEGO.

1906	$36,218,236.32
1909	52,094,521.00
1910	66,708,874.00

FRESNO.

1909	$29,324,258.30
1910	38,275,344.20

SAN JOSE.

1907	$15,504,767.53
1909	25,320,894.50
1910	27,828,978.64

STOCKTON.

1909	$28,195,022.20
1910	32,342,840.13

PASADENA.

1910	$40,570,318.90

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VALUES OF PROPERTY IN, AND INDEBTEDNESS OF, EACH COUNTY FOR THE YEAR 1910 AND RATE OF TAXATION.
(STATE RATE, 35.3 CENTS.) Controller's Department, State of California.

COUNTIES	Classification	Value of Real Estate	Value of Improvements on Real Estate	Value of Personal Property	Money and Solvent Credits	Value of Railroads as Assessed by State Board of Equalization	Grand Total Value of All Property	Total County Indebtedness	Total State and County Rate of Taxation Each $100
Alameda	3d Class	$ 110,963,950	$ 63,134,550	$ 19,162,085	$ 2,554,312	$ 4,391,205	$ 200,206,102	.....	$1.16 - $1.56
Alpine	57th "	228,959	218,442	61,779	.....	.....	509,180	$ 15,220.00	2.20
Amador	35th "	3,387,648	1,700,063	566,299	22,595	197,730	5,874,335	.....	1.43 - 1.85
Butte	23d "	11,894,060	4,606,745	3,554,953	164,937	2,611,317	22,832,012	38,000.00	1.60 - 2.00
Calaveras	33d "	3,484,135	1,857,375	807,630	29,135	362,704	6,540,979	.....	2.00
Colusa	42d "	9,281,900	1,326,720	1,744,275	159,845	860,830	13,373,570	.....	1.30 - 1.70
Contra Costa	19th "	17,239,540	7,382,950	6,627,185	794,540	3,405,163	35,399,378	161,000.00	1.25 - 1.65
Del Norte	55th "	3,828,172	226,284	301,611	7,539	.....	363,606	1,500.00	1.25 - 1.75
El Dorado	40th "	3,519,000	1,174,735	632,415	22,715	779,793	6,128,658	.....	1.72 - 2.10
Fresno	7th "	36,779,981	12,974,070	8,781,952	422,717	6,305,702	65,264,422	.....	1.20 - 1.58
Glenn	47th "	10,006,200	904,170	1,581,864	174,083	1,421,227	14,087,544	13,000.00	1.90 - 2.30
Humboldt	11th "	21,742,940	4,146,560	2,842,550	417,127	.....	29,149,177	.....	1.40 - 2.00
Imperial	36½ "	7,418,054	871,298	1,314,214	11,500	2,533,114	12,148,180	.....	1.30 - 1.90
Inyo	53d "	1,869,725	1,562,690	706,865	75,260	692,940	4,907,480	55,000.00	1.83 - 2.10
Kern	26th "	26,769,565	7,013,295	11,762,984	145,564	6,659,138	52,350,546	832,060.00	.95 - 1.30
Kings	37th "	7,598,646	1,894,065	1,923,065	104,063	1,640,853	13,160,692	.....	1.15 - 1.55
Lake	45th "	2,305,567	811,300	453,516	75,806	.....	3,646,189	37,000.00	1.75 - 2.25
Lassen	51st "	4,216,456	646,991	1,137,449	134,160	1,137,161	7,272,217	.....	1.60 - 2.00
Los Angeles	2d "	323,803,215	116,482,235	72,317,720	9,908,384	8,889,005	531,400,559	1,094,000.00	.90 - 1.50
Madera	44th "	6,262,005	930,860	1,457,500	23,255	1,949,266	10,622,886	.....	1.45 - 1.80
Marin	29th "	11,109,655	5,413,880	1,677,400	88,085	1,420,253	19,709,273	57,000.00	1.15 - 1.55
Mariposa	49th "	1,462,807	383,790	375,120	650	269,525	2,491,892	1,030.00	2.50
Mendocino	14th "	9,986,168	2,301,946	2,281,333	84,991	1,039,348	15,693,786	72,500.00	1.50 - 1.90
Merced	39th "	12,162,380	2,158,235	3,089,085	87,271	3,396,825	20,893,796	70,000.00	1.45 - 2.00
Modoc	48th "	3,902,035	776,780	1,206,157	101,780	149,791	6,136,543	.....	1.35 - 1.65
Mono	56th "	592,385	206,220	480,645	3,700	66,740	1,349,690	.....	2.50
Monterey	16th "	16,815,960	4,384,450	3,109,209	81,490	3,511,747	28,352,856	76,960.00	1.25 - 1.70
Napa	27th "	7,151,610	5,353,520	2,417,015	173,150	1,593,029	16,688,324	.....	1.32 - 1.68
Nevada	21st "	3,026,530	2,813,880	1,069,300	57,835	1,095,717	8,063,262	.....	2.00 - 2.50
Orange	15th "	17,871,190	5,315,875	4,414,160	173,135	2,823,172	30,597,532	50,000.00	1.20 - 1.60
Placer	28th "	5,570,930	2,643,390	1,481,600	78,810	3,501,198	13,275,928	20,000.00	1.60 - 2.00
Plumas	50th "	4,124,265	649,780	529,673	42,797	1,430,603	6,777,118	135,100.00	1.80
Riverside	20th "	12,868,292	6,968,145	2,244,898	137,500	4,706,996	26,925,831	150,000.00	1.20 - 1.80
Sacramento	5th "	35,607,510	15,001,340	6,906,060	1,167,245	2,963,877	61,646,032	1,656,325.00	1.53 - 2.00
San Benito	43d "	4,831,045	1,309,865	1,208,175	72,020	458,145	7,879,250	36,000.00	1.62 - 1.95
San Bernardino	10th "	20,793,120	13,333,795	2,608,075	161,575	12,999,332	49,895,897	.....	1.10 - 1.55
San Diego	9th "	31,705,206	5,507,087	4,622,730	181,208	2,178,943	44,195,174	600,000.00	1.40 - 2.00
San Francisco	1st "	288,095,453	145,167,790	49,793,303	31,970,618	392,925	515,420,089	16,314,500.00	2.00
San Joaquin	8th "	24,869,340	10,540,699	5,032,366	1,042,337	5,103,869	46,589,111	790,000.00	1.25 - 1.615
San Luis Obispo	25th "	9,666,354	2,999,844	3,396,363	181,929	2,040,923	18,285,413	95,000.00	1.44 - 1.84
San Mateo	32d "	17,413,120	7,156,050	1,834,095	329,755	840,661	27,573,681	182,000.00	1.12 - 1.62
Santa Barbara	17th "	15,840,215	6,134,045	5,748,357	179,855	3,283,318	31,185,290	.....	1.45 - 1.80
Santa Clara	4th "	44,478,310	19,920,890	6,018,065	439,425	2,287,412	73,144,102	300,000.00	1.12 - 1.52
Santa Cruz	13th "	10,071,105	4,696,465	1,892,145	104,835	1,053,021	17,817,571	.....	1.25 - 1.65
Shasta	22d "	8,301,400	3,613,370	1,634,340	51,120	2,471,911	16,072,141	13,000.00	1.35 - 1.75
Sierra	54th "	1,371,885	538,150	267,260	2,370	250,282	2,429,947	.....	2.00 - 2.50
Siskiyou	24th "	9,605,795	3,080,316	1,925,395	225,905	2,505,038	17,292,449	.....	1.15 - 1.55
Solano	12th "	12,738,862	5,489,595	2,576,088	147,741	1,870,565	22,822,851	250,000.00	1.45 - 1.85
Sonoma	6th "	19,385,775	10,049,390	4,125,495	352,520	2,909,614	36,822,794	280,000.00	1.30 - 1.70
Stanislaus	38th "	14,889,150	3,392,500	2,708,825	203,780	2,883,802	24,078,057	2,216.39	1.25 - 1.65
Sutter	46th "	4,896,460	1,033,350	867,126	58,965	1,308,059	8,163,960	.....	1.30 - 1.70
Tehama	36th "	7,584,940	2,313,185	2,142,330	197,620	1,659,816	13,897,891	3,000.00	1.57 - 1.95
Trinity	52d "	2,256,666	327,101	281,895	18,596	.....	2,884,258	.....	2.25
Tulare	18th "	22,270,482	6,331,035	3,741,175	222,975	4,879,473	37,445,140	.....	1.10 - 1.55
Tuolumne	34th "	4,573,690	2,784,230	620,840	2,000	504,567	8,485,327	.....	1.45 - 1.95
Ventura	30th "	17,406,125	2,375,680	2,840,096	185,145	2,709,604	25,516,650	.....	1.45 - 1.80
Yolo	31st "	13,019,460	2,712,670	2,214,530	193,930	2,198,365	20,338,955	.....	1.20 - 1.60
Yuba	41st "	3,292,840	1,642,360	1,551,010	179,210	1,156,099	7,821,519	.....	2.20 - 2.60
Totals	.....	$1,361,208,233	$ 547,036,091	$ 278,669,645	$ 54,231,410	$ 129,751,713	$2,373,897,092	$23,401,411.39	

Note.—Where two rates of taxation are given, the lesser rate is that levied upon property situate within the limits of incorporated cities or towns, such property being exempt from road tax.

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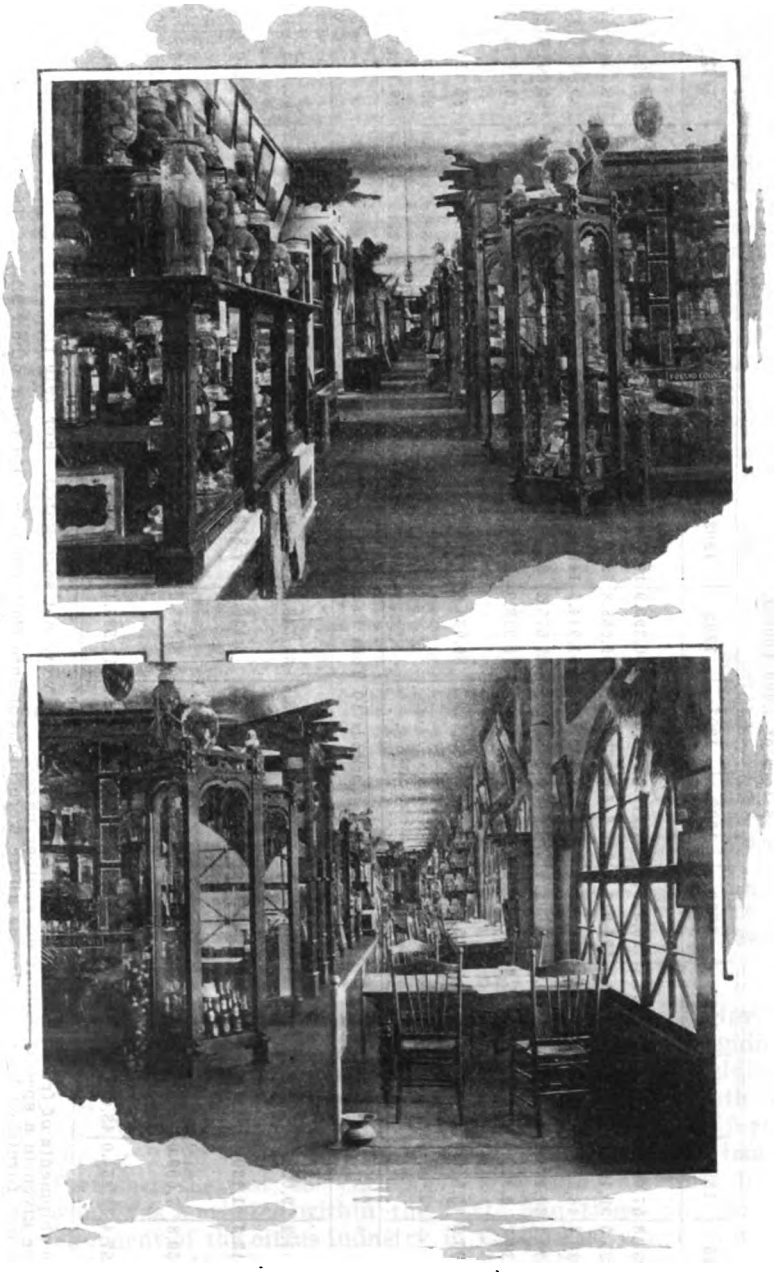

EXHIBIT HALL OF CALIFORNIA DEVELOPMENT BOARD.

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GENERAL SUMMARY AND COMPARATIVE TABLE OF SHIPMENTS OUT OF STATE BY RAIL AND BY SEA, OF FRUITS, WINE, BRANDY AND VEGETABLES FOR SIXTEEN CONSECUTIVE YEARS.

Tons of 2,000 Pounds.

Kinds.	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910 by rail
Green Deciduous Fruits	66,254.8	57,638.3	72,350.2	69,732.2	96,943.6	91,176.5	93,673.7	100,390.9	101,198.7	73,983 6	115,083.6	113,679.0	106,066.0	161,224.0	203,275	204,876
Citrus Fruits	115,825.5	99,156.0	98,547.0	180,658.9	131,916.8	226,546.6	323,871.4	225,668.8	299,623.4	385,747.6	454,083.4	383,418.9	413,696.1	399,094.0	475,959	446,384
Dried Fruits	61,386.4	48,522.8	75,159.7	76,662.7	86,925.3	90,052.8	106,987.1	151,944.5	149,531.1	156,769.3	118,479.3	112,176.9	184,821.6	133,846.0	154,756	128,892
Raisins	46,390.1	34,434.6	39,065.8	47,796.3	36,008.7	36,047.0	43,314.0	47,575.2	39,963.4	54,134.7	32,634.7	42,457.3	*	*29,601.0	61,584	67,278
Nuts and Olives	3,234.7	4,972.6	5,808.6	5,815.8	6,608.4	6,518.4	8,462.4	10,918.9	9,377.4	9,810.5	7,610.5	5,131.5	7,198.0	10,887.5	12,438	12,308
Canned Fruits and Vegetables	41,395.5	45,546.9	73,464.7	52,219.7	75,240.0	75,556.9	83,229.1	80,634.8	94,204.8	86,077.9	91,877.9	77,626.5	104,624.6	†85,135.0	†71,223	†73,746
Raw Vegetables	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	93,500.8	86,014	78,829
Wine and Brandy	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	70,758.2	75,656	82,144
Carloads 10 Tons Each.																
Carloads Fruit by rail and sea	33,547.2	29,026.7	36,439.6	43,288.6	43,364.3	52,901.5	65,953.8	61,713.3	69,689.8	76,652.4	81,976.9	73,449.0	81,640.7	82,178.0	101,206	93,349
Carloads Vegetables by rail and sea	3,613.6	1,130.6	4,243.8	3,045.6	2,613.6	4,367.8	8,371.7	6,130.2	7,839.2	4,428.6	5,961.0	8,982.0	4,808.2	9,350.0	8,978	7,883
Carloads Wine and Brandy, by rail and sea	8,056.8	7,609.0	6,897.8	9,014.0	8,713.9	9,067.3	8,605.3	8,868.2	9,733.2	10,148.8	10,641.8	8,146.9	8,850.5	7,075.8	10,506	8,214
Carloads Fruit, Vegetables, Wine and Brandy, by rail and sea	45,257.4	38,254.0	48,072.0	56,149.6	55,482.5	66,797.8	83,731.9	77,538.1	88,084.8	92,052.7	99,409.8	90,577.9	95,299.4	98,603.8	120,690	109,456

Previous to 1910 shipments of fruits, vegetables, etc., by rail and sea were not segregated. For 1910 the table includes only rail shipments and the shipments by sea are given in a special exhibit on another page.

According to figures furnished by the railroads, there were brought into California in 1910 from other States: Dairy products (lbs.), 12,346,000; poultry, game and fish (lbs.), 5,416,000; eggs (doz.), 10,176,690. This shows that there is no over-production in these lines in California.

*All shipments of raisins by rail and by sea are included in dried fruits in 1907 and some in 1908.

†Includes shipments of canned vegetables. The pack of canned fruits and vegetables for 1910 is given on pages 28 and 30.

Included in the above table with nuts were 39 carloads of pickled olives and 32 carloads of olive oil.

Dairy and poultry products, fresh and canned vegetables taken on at this port as supplies and not included above, reach a value of over $1,500,000.

Shipments by rail in 1910 were 11,234 carloads less than rail and water shipments in 1909, but larger than any previous year. The shipments by sea added to those by rail would bring the total for 1910 somewhat above the figures for 1909

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EXPORTS BY SEA OF CALIFORNIA FRUIT AND VEGETABLES FROM SAN FRANCISCO TO FOREIGN COUNTRIES.

	Amount.	Value.
Prunes	36,586,765 lbs.	$2,117,652
Raisins	6,146,480	307,133
Apricots	4,988,215	562,622
Peaches	3,053,735	132,047
Apples, dried	1,522,954	121,836
Apples, green	20,683 boxes	41,366
Oranges	16,694 boxes	38,858
Fruits		153,835
Canned Fruit	598,630 cases	1,795,890
Nuts		152,479
Beans	33,703	108,672
Onions	26,853	22,929
Potatoes	51,527	40,852
Vegetables, canned		289,788
Vegetables, all other		61,305

EXPORTS BY SEA OF CALIFORNIA FRUIT, VEGETABLES AND WINE FROM SAN FRANCISCO TO OTHER STATES AND NON-CONTIGUOUS TERRITORY.

TO ALASKA—	Amount.	Value.
Fruit, dried and green	835,543 lbs.	$ 27,050
Fruit, canned and pressed	758 cases	32,198
Nuts		8,291
Dairy Produce		129,270
Vegetables		14,403
Wine	8,485	7,115
TO TUTUILA—		
Fruit, dried and green		38
Fruit, canned	880	3,641
Dairy Products		283
Vegetables		1,571
Wine, gallons	146	165
TO ATLANTIC STATES—		
Fruit, dried	23,372,837 lbs.	918,225
Fruit, canned	371,221 cases	1,113,663
Wine and Brandy	8,421,288 gals.	2,575,592
Beans	11,172,251 lbs.	670,335
TO HAWAII—		
Fruits, green, dried and canned	4,123,045 lbs.	225,957
Dairy Products		379,172
Vegetables		220,202
Wine	866,311 gals.	350,859
TO OREGON & WASHINGTON—		
Fruits, green, dried and canned	9,879,000 lbs.	765,000
Vegetables		900,000
Dairy Produce		150,000

ORCHARD AND VINEYARD.

Citrus Fruits. The shipments of citrus fruits from California for the season Nov. 1, 1909, to Oct. 31, 1910, while nearly 9,000 carloads less than the one ending 1909, were yet greater than in any year previous. They totaled 33,099 carloads, of which 25,331 carloads of oranges and 4,674 carloads of lemons went from south of Tehachapi. The balance, 2,789 carloads went from Central and Northern California. The Tulare district sending 2,220 carloads of oranges and 110 carloads of lemons; the northern district furnished the rest, 439 carloads. The shipments were by freight and exclusive of what was marketed within the State and those shipped East by express. The development of the citrus industry in California, which now amounts to between 13,000,000 and 18,000,000 boxes can be seen by reference to the table on the preceding page. It is nearly three times as great as all the other States combined.

Fresh Fruit. The fruit distributing associations and others furnish statistics of shipments of deciduous fruits to Eastern markets for the year 1910, as given in the table herewith.

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As the varieties are shown, they add to the value of the tables of shipments. The figures are for actual carloads without regard to tons in a car. The minimum fixed by the railway companies now is 15 tons, but a carload is often 30 tons. Other tables in the report retain the original 10-ton unit. As an illustration, the table on a preceding page shows 16,122 carloads of fresh fruit for 1908, while the Fruit Association's table gives the number at 12,917 cars. An apparent discrepancy occurs in using actual carloads in one instance and the 10-ton unit in the other.

SHIPMENTS FROM NORTH OF TEHACHAPI.

Varieties.	1904.	1905.	1906.	1907.	1908.	1909.	1910.
Cherries	209	79	150	98	208¼	250	250
Apricots	97	279	16	71	231¾	210	290
Peaches	559	1946	584	699	1980¼	2599	2518
Plums and Prunes	1053	1391	1220	1039	1763	1526	1552
Pears	2186	1013	1513	1039	2701½	2638	2361
Grapes	1541	1602	2052	3460	3816¼	5880	4948
Apples	71	1761	770	1085	2216	2188	2153
*Miscellaneous						19	
	5716	8071	6305	7491	12917	15280	14072

*Includes quinces, persimmons and figs previous to 1909 not counted separately.

While the above table gives but 2,153 carloads as the total shipments of apples from the State for the year 1910, the secretary of the Commercial League of Watsonville places the shipments from the Pajaro Valley at 4,000 carloads.

Dried Fruits. Nearly all kinds of deciduous fruits are dried for the market, but prunes, peaches and apricots are the most important. The dried output of all, except figs, varies largely according to the season, the demand of the Eastern market for fresh fruit, and the prices offered by the canners.

OUTPUT OF DRIED FRUITS, NOT INCLUDING PRUNES AND RAISINS, 1900-1910, IN TONS.

Year	Peaches	Apricots	Apples	Pears	Plums	Nectarines	Grapes	Figs
1900	17,170	14,000	3,150	7,275	1,950	435	240	2,000
1901	14,755	7,776	3,225	3,290	1,725	317	180	3,260
1902	25,210	18,762	4,875	2,625	1,280	455	188	3,625
1903	16,075	10,500	1,800	2,325	1,435	317	205	3,000
1904	11,500	8,500	1,500	1,750	1,150	210	170	2,850
1905	17,500	19,250	3,250	1,750	930	185	193	3,625
1906	11,250	3,250	2,750	3,500	1,100	170	200	3,375
1907	12,000	1,500	1,500	500	750	137	188	3,000
1908	22,500	19,000	3,000	1,200	1,000	350	1,500	3,000
1909	20,000	14,500	2,500	1,250	500	375	325	3,500
1910	25,000	16,000	3,100	1,000	375	250	350	3,775
Average ten previous years	16,796	12,000	2,755	2,547	1,257	295	339	3,126

Prunes. Of dried fruits, prunes come next in importance to raisins. Prunes are grown in many counties throughout the State; the largest center of this industry is the Santa Clara Valley. A good many prunes are grown in the San Joaquin and Sacramento Valleys and also in Contra Costa and Sonoma Counties.

The output varies largely in different years. The most reliable figures place the output for 1910 at 45,000 tons, or half the production of 1906.

CALIFORNIA PRUNE OUTPUT.

Year	Tons	Year	Tons
1897	48,840	1904	67,500
1898	45,210	1905	37,500
1899	56,863	1906	90,000
1900	87,000	1907	40,000
1901	40,800	1908	25,000
1902	98,500	1909	77,500
1903	82,500	1910	45,000

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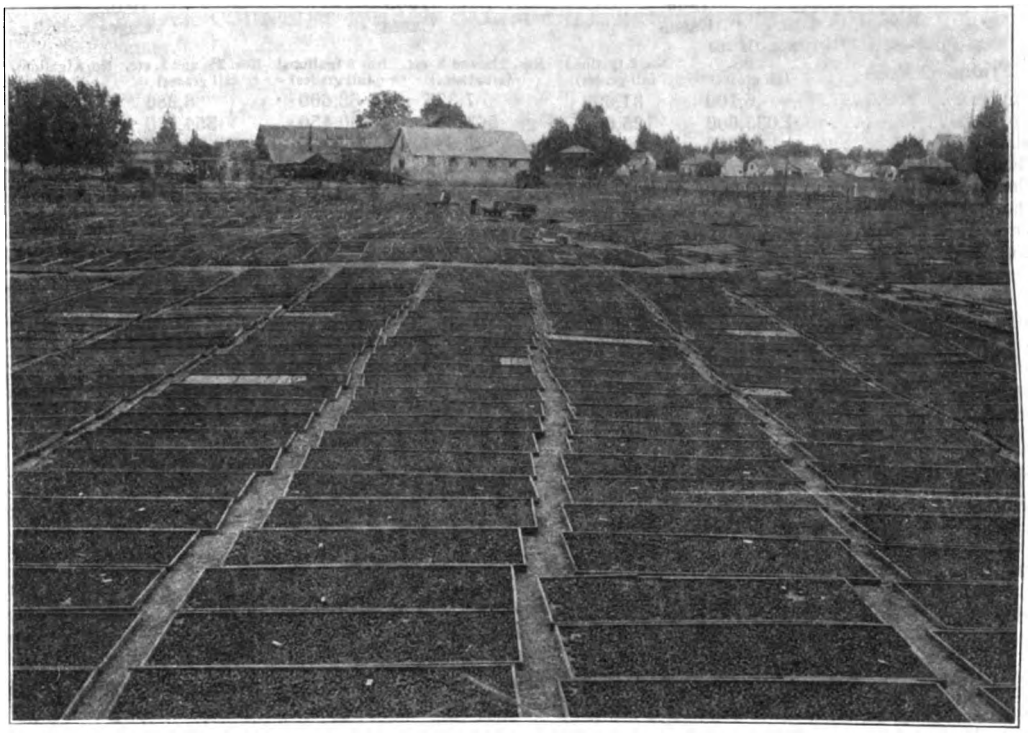

FRUIT DRYING.

The following exhibit is of some interest in this connection as showing the trend of trade in dried fruits.

(Compiled by George Robertson, Fresno, Cal.)

EXPORTS AND IMPORTS OF CALIFORNIA RAISINS AND OTHER CURED FRUITS AND ORANGES.

	RAISINS. (Pounds)		EXPORTS. (Pounds)			
Year	Export	Import	Apricots	Peaches	Prunes	Oranges (Boxes)
1905	3,978,645	11,511,347	13,616,010	700,902	34,820,748	.....
1906	9,749,690	4,537,648	3,268,457	1,819,863	31,777,704	.....
1907	4,720,606	9,927,771	1,540,471	1,354,317	37,674,800	.....
1908	7,084,178	4,875,693	14,463,948	1,296,095	18,087,319	714,365
1909	8,363,845	5,219,649	13,644,135	2,843,968	83,128,101	952,869
1910	15,547,074	3,022,918	18,366,055	4,946,406	64,470,370	962,229

The quantity of fruit exported depends to a certain extent on the size of the crop; for example, the prune crop for 1910 is estimated at about 74,000,000 lbs., compared with 150,000,000 the previous year, which was one of the largest on record. The apricot crop also varies greatly.

Canned Fruit. The canning of fruit and vegetables is an important industry in California, and the yearly output of canned goods is very large.

The aggregate number of cases of all kinds of fruit and berries canned in 1909 was nearly a million and three quarter cases less than in 1908, but was larger than for any previous year. The demand for fresh fruit at home and for shipping takes a large quantity of fruit that would otherwise go to the canner.

The following exhibit by courtesy of the "California Fruit Grower" is made of the various kinds of fruit canned in 1908, 1909 and 1910.

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Fruits—	1908 Cases		1909 Cases		1910 Cases	
	Nos. 2½ and 3 lbs. (all grades)	No. 8 (gallon) (all grades)	Nos. 2½ and 3 etc. (all grades)	No. 8 (gallons) (all grades)	Nos. 2½ and 3, etc. (all grades)	No. 8 (gallons) (all grades)
Apples	6,100	31,600	7,375	62,600	6,280	70,550
Apricots	1,035,600	125,650	563,660	100,450	554,530	198,630
Blackberries	43,250	44,300	22,625	27,330	26,425	35,600
Cherries, Royal Ann.	100,700	5,000	110,250	7,450	123,240	13,050
Cherries, black	39,200	1,525	16,700	1,375	18,110	1,510
Cherries, white	52,100	3,630	51,640	4,520	33,410	5,875
Grapes	37,620	7,925	20,105	4,365	39,285	6,360
Loganberries	1,029	1,371	3,204	808	6,977	5,662
Nectarines	1,502	171	.....	14	.....	1
Pears	611,500	29,050	466,530	34,910	568,125	51,230
Peaches, free	838,400	136,950	401,800	145,375	553,000	195,825
Peaches, cling	1,240,350	87,260	779,725	109,260	1,233,200	163,425
Plums	209,300	30,525	75,450	13,975	65,550	14,810
Raspberries	5,365	585	3,375	215	9,335	791
Strawberries	4,960	820	9,690	890	13,225	848
Other fruits	272	1,053	700	635	2,250	1,400
Total fruit (cases)	4,227,248	507,415	2,532,829	514,172	3,242,942	765,607
Grand total fruits.		4,734,663		3,047,001		4,008,549

It is given by same authority that the aggregate amount of canned fruit and berries for 1910 amounted to 4,058,549 cases.

The following table shows the production during the last ten years:

CANNED FRUITS.

Year	Cases	Year	Cases
1901	2,677,082	1906	3,109,225
1902	2,252,790	1907	2,982,985
1903	2,783,504	1908	4,734,663
1904	2,840,614	1909	3,047,001
1905	3,283,296	1910	4,008,549

The Vineyard. California is easily the most important factor in viticulture in the United States, and grape culture is one of the most widespread industries in the State, 342,519 acres, according to the State Board of Equalization, being devoted to the industry, of which 160,573 acres are in wine grapes, 128,217 acres in raisin grapes, and 53,729 acres in table grapes, which is being increased every year, especially of table grapes.

All varieties of European grapes are included, besides many California developments therefrom.

The annual value of the grape product, including table grapes, dried grapes and raisins, and wine and brandy, aggregates over $25,000,000. The shipments of table grapes out of the State by rail for 1910 amounted to 4,948 carloads.

Raisins. The center of the raisin industry is in Fresno County, although raisins are produced in other parts of the State. The crop varies from year to year, as the appended table shows; that for 1910 exceeds the average of the six preceding years.

CALIFORNIA RAISIN CROP.

Year	Tons	Year	Tons
1897	46,852	1904	37,500
1898	40,365	1905	43,750
1899	35,784	1906	47,500
1900	47,167	1907	60,000
1901	37,125	1908	60,000
1902	54,375	1909	70,000
1903	60,000	1910	56,000

The above figures show that Fresno County now produces about 60 per cent of the California raisin crop, and nearly twice the quantity produced by Spain, which produces from 15,000 to 30,000 tons and has held the lead for centuries. It was in 1892 that the California raisin crop first equaled that of Spain, and it has been increasing the difference ever since.

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TWELVE COUNTIES WHERE CALIFORNIA RAISINS ARE PRODUCED.

County.	Crop of 1909—pounds.
Fresno	83,404,000
Tulare	20,000,000
Kings	18,000,000
Sutter	4,500,000
San Bernardino	3,600,000
San Diego	3,200,000
Madera	2,400,000
Yolo	2,000,000
Kern	1,100,000
Colusa	900,000
Los Angeles	600,000
Riverside	296,000
Total crop	140,000,000

SEEDED RAISINS.

Fresno County is the center of the seeded raisin industry, where it originated. The following figures show the wonderful increase in this popular form of raisin during the last fourteen years:

	Tons.		Tons.
1896	700	1903	18,000
1897	3,500	1904	18,000
1898	7,000	1905	21,000
1899	12,000	1906	24,000
1900	14,000	1907	26,000
1901	14,000	1908	24,000
1902	16,000	1909	28,000

(The above are only approximate figures.)

Wine and Brandy. The aggregate wine and brandy production for 1910, with an excess of 500,000 gallons in case of dry wine and of 500,000 gallons in case of brandy, was more than for 1909, which exceeded all previous years.

The production in 1909 of sweet wine was the greatest in the history of the industry by 2,500,000 gallons, and 1910 kept pace with it. The output of dry wine was well above the normal by near 7,000,000 gallons.

The following table shows the product of wine and brandy for the last fourteen years:

Year	Dry Wines Gals.	Sweet Wines Gals.	Brandy Gals.
1897	28,736,400	5,197,500	1,442,468
1898	10,750,000	7,779,000	1,250,000
1899	15,103,000	8,330,000	1,699,035
1900	16,737,260	6,940,300	3,256,513
1901	16,473,731	6,270,300	1,688,482
1902	28,224,146	14,835,146	4,564,173
1903	21,900,500	12,670,356	1,972,000
1904	15,589,342	13,571,856	4,420,839
1905	20,000,000	10,700,000	1,250,000
1906	26,000,000	15,000,000	1,345,000
1907	27,500,500	15,500,000	1,500,000
1908	22,500,000	14,750,000	1,750,000
1909	27,000,000	18,000,000	2,000,000
1910	27,500,000	18,000,000	2,500,000

After 1904 brandy used in fortifying sweet wines was excluded.

California wines have a wide and growing market. The railroad shipments on another page go mainly to Eastern points, while those by sea go to the four quarters of the world.

In this connection the following exhibit from the "Wine and Spirit Review" is of interest:

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EXPORT OF WINE BY SEA.

Year	Gallons	Value	No. of Countries Receiving
1908	4,250,799	$1,657,089	12
1909	7,440,294	2,386,111	23
1910	9,866,539	3,162,600	26

FRESH AND CANNED VEGETABLES.

Fresh vegetables shipped out of the State by rail and sea amounted to nearly 9,000 carloads of ten tons each, for the year. The vegetables grown in the central and northern parts of the State, with the exception of asparagus, are mainly consumed in the home market, and shipments for 1909 were largely from the southern portion. Shipments from south of Tehachapi, which are included in the table of shipments for the State, are reported as follows by the Los Angeles Chamber of Commerce:

Kinds.	Value.
Cabbage	$ 125,000
Cauliflower	170,000
Celery	600,000
Lettuce	15,000
Potatoes	265,000
Tomatoes	120,000
Onions	215,000
Miscellaneous	225,000
	$1,735,000
Melons and Cantaloupes	1,000,000
Total	$2,735,000

The year 1910 fell short in melon shipments and returns to the growers owing to a bad year and heavy competition. The returns were about half of those for 1909.

From the "California Fruit Grower" the following exhibit shows the kinds of vegetables canned in 1908 and 1909:

Vegetables—	Cases 1908		Cases 1909		Cases 1910	
	Nos. 2½ and 3, etc. (all grades)	No. 8 (gallons) (all grades)	Nos. 2½ and 3, etc. (all grades)	No. 8 (gallons) (all grades)	Nos. 2½ and 3, etc. (all grades)	No. 8 (gallons) (all grades)
Asparagus	238,085	335	410,335	630	614,050	3,225
Beans	38,610	1,155	10,490	1,495	41,610	4,640
Peas	81,770	6,740	88,360	15,650	140,855	26,920
Tomatoes	1,014,200	92,675	567,300	104,960	1,159,875	190,435
Other vegetables	21,780	6,535	38,350	4,700	49,075	19,960
Total vegetables (cases)	1,394,445	107,440	1,114,835	127,885	2,005,465	245,180
Grand total vegetables		1,501,885		1,242,720		2,250,645

The fresh asparagus shipped to Eastern points is mainly from the "Delta Region" of Central California.

FRESH FRUITS AND VEGETABLES.

No other State in the Union and few other countries in the world offer such a variety of fresh orchard and garden products throughout the year as does California. In one or another section of the State, fresh fruits and vegetables of superior quality are to be had in every month of the twelve. "The Garden Calendar," by Prof. E. J. Wickson, shows that as far north as Red Bluff, conditions admit of planting for market eight kinds of vegetables in November, five in December, ten in January, eleven in February, fourteen in March, eighteen in April, and every month has something in the list, the smallest being August with four kinds.

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Olives, Olive Oil, etc. Olive culture is one of the oldest fruit industries in the State. The first orchard was planted in San Diego in 1769, and that county is a large producer of olives and olive oil. There are large orchards in other counties, and every year adds to the number of trees. There are thirty-eight counties reporting over 1,000 trees each, ranging from Shasta on the north to the Mexican line on the south. The number of trees, as reported by the State Board of Equalization, is about 1,200,000 in bearing. Los Angeles leads with 320,800 bearing trees.

Statistics of this industry are difficult to obtain. It has not heretofore been very attractive from a remunerative point of view, but the removal of competition with adulterated oil by the Pure Food regulations has given it quite an impetus. Estimates of the production for 1910 range from 750,000 to 900,000 gallons of olive oil, and from 1,000,000 to 1,250,000 gallons of pickled olives.

Honey. While honey is produced for the market in all of the principal valleys, the great bulk of the commercial product comes from the San Joaquin Valley and the counties south. The crop for 1909 was the record crop and nearly double the average.

CALIFORNIA HONEY CROP. (Comb and Extracted.)

The estimates of the honey product for several years are:

Year.	Pounds.	Year.	Pounds.
1899	2,822,000	1905	9,500,000
1900	2,208,000	1906	5,250,000
1901	8,112,000	1907	8,700,000
1902	5,125,000	1908	5,250,000
1903	8,400,000	1909	11,532,000
1904	7,000,000	1910	5,500,000

Silk. The culture of silk, which attracts little attention, is increasing slowly in California, and though not yet on a commercial basis is likely to become a good industry. The climate in California is admitted to be adapted to the raising of silk. The season for production extends over a period of six or eight months, while in Europe it lasts only as many weeks.

Nuts. The production of almonds fluctuates greatly and the crop for 1909, though much less than that of 1908, was still above the average. The production of walnuts is more regular, and the crop for the year gave good returns.

ALMONDS AND WALNUTS.

Year	Almonds	Walnuts
	Tons (2,000 lbs.)	
1895	825	2310
1896	1605	4115
1897	2375	3985
1898	450	5650
1899	2320	5530
1900	2740	5430
1901	1560	6910
1902	3270	8520
1903	3200	5500
1904	800	7590
1905	2125	5750
1906	900	6125
1907	750	8250
1908	3000	8000
1909	1650	7500
1910	2750	8500

At an average value of $300 per ton, the aggregate of these crops is $3,375,000.

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DAIRY INDUSTRY.

The dairy industry is year by year more extended and important. Comparative statistics of butter production of the State for a series of years beginning with 1896 show the importance of this industry, and yet the supply falls so far short of the demand as to necessitate the bringing in of large quantities of butter from other States.

The season, as covered by the report of the State Dairy Bureau, ends September 30th of each year.

Despite the persistent efforts of that bureau some creameries and large producers in a number of counties failed to make any report of their production for the year 1910.

The figures gathered by the Bureau have been supplemented by returns made to this Board from other reliable sources, but the total production given for the year probably falls short of the actual output.

Scientific Dairying. Scientific dairying has largely superseded the old methods in California, as the following table, showing the number of pounds of butter produced in the State by the creamery method and the old method for seven years ending October 1, 1902, demonstrates:

THOROUGHBRED DAIRY HERD.

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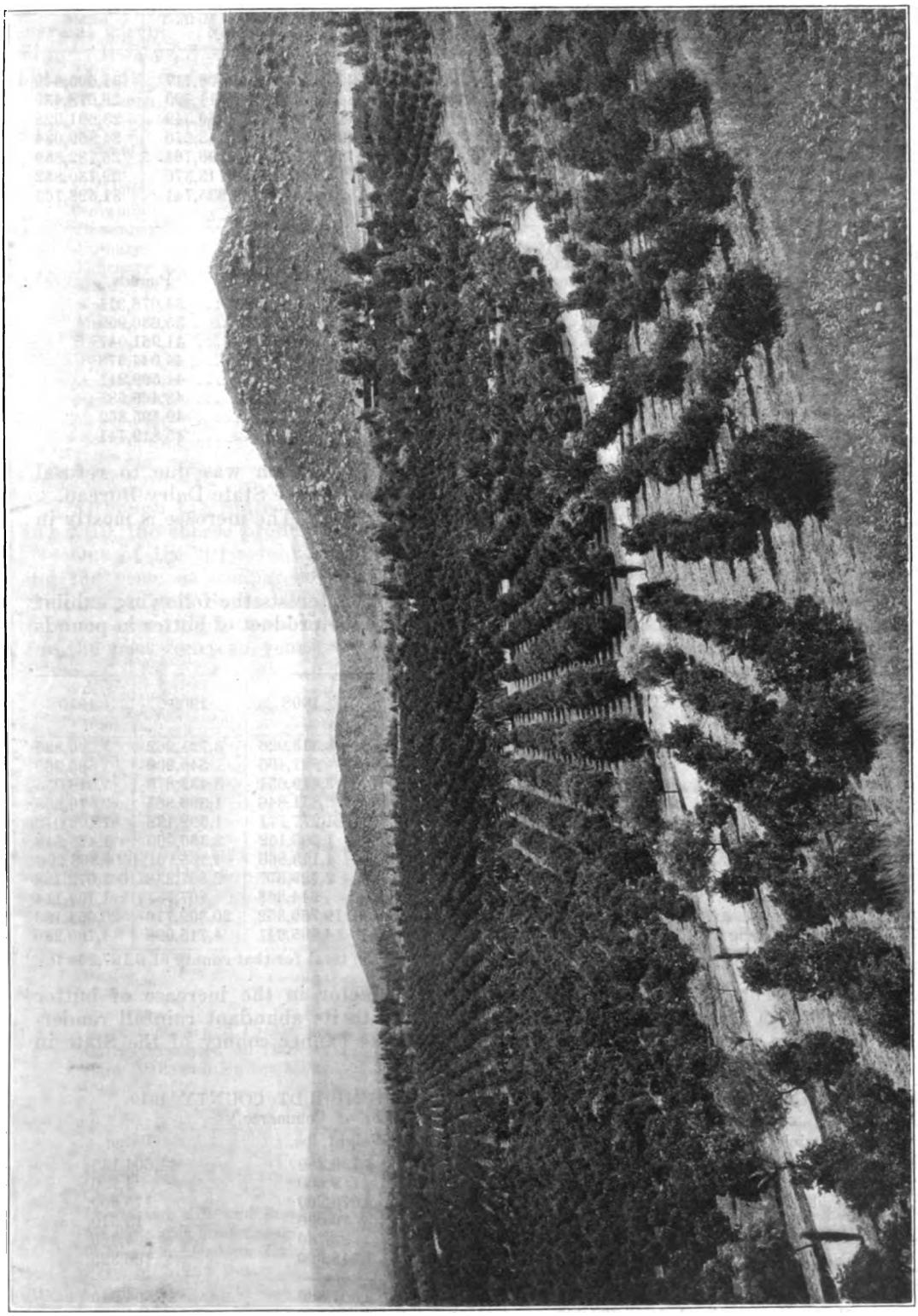

A CALIFORNIA ORANGE GROVE.

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Year	Creamery Method	Old Method	Totals
1896	10,097,323	21,508,117	31,605,440
1897	10,866,646	17,811,793	28,678,439
1898	10,410,479	13,280,549	23,691,028
1899	12,725,814	12,143,270	24,869,084
1900	16,486,695	12,296,164	28,782,859
1901	19,017,512	10,713,370	29,730,882
1902	21,593,021	9,935,741	31,528,763

Since 1902 the growth is indicated in the following exhibit:

Year.	Pounds.
1903	34,676,311
1904	35,636,909
1905	41,961,047
1906	44,044,578
1907	44,599,211
1908	48,469,585
1909	49,595,869
1910 (Reported by State Dairy Bureau)	45,819,741

The apparent falling off in butter and cheese production was due to refusal or negligence on part of the producers to make report to the State Dairy Bureau.

California is now well to the front as a dairy State. The increase is mostly in counties where irrigation is practiced.

IRRIGATION AND DAIRYING.

As showing the effect of irrigation on the dairy interests the following exhibit from the reports of the State Dairy Bureau, giving the product of butter in pounds by principal counties, is instructive:

Counties	1905	1906	1907	1908	1909	1910
Fresno	1,619,746	2,446,897	2,786,817	3,315,926	3,721,262	3,290,825
Kern	200,936	334,070	372,569	521,495	545,900	565,900
Kings	1,099,400	1,677,272	1,960,364	2,419,651	3,432,879	3,218,036
Merced	1,563,771	2,361,528	2,469,726	2,831,846	1,396,865	2,510,269
Sacramento	1,508,293	1,617,633	1,060,098	1,277,771	1,592,138	1,102,012
San Joaquin	1,015,568	1,641,374	1,625,538	1,605,152	2,350,000	1,425,543
Stanislaus	1,564,749	2,759,582	3,615,469	4,113,866	4,155,701	*4,363,296
Tulare	1,497,762	2,075,729	2,522,707	2,729,377	2,307,238	3,072,198
Yolo	831,185	1,387,210	726,532	944,268	807,787	1,103,114
Totals	10,901,410	16,499,295	17,139,820	19,759,352	20,309,770	20,651,193
Humboldt (non-irrig.)	4,289,739	4,235,927	4,390,815	4,495,041	4,715,998	4,790,280

*A statistician employed by Stanislaus Board of Trade makes the total for that county of 6,187,204 lbs.

While irrigation has been a most important factor in the increase of butter production, as shown above, Humboldt County, with its abundant rainfall rendering irrigation unnecessary, claims the position of the banner county of the State in dairy products, as shown by the appended table:

SHIPMENTS OF DAIRY PRODUCTS FROM HUMBOLDT COUNTY 1910.
(From records of the Humboldt Chamber of Commerce.)

Article	Weight, lbs.	Value
Butter	4,790,280	$1,504,135
Cheese	9,600	1,750
Condensed Milk	2,079,200	175,000
Dry Milk	70,050	13,510
Fresh Cream	33,760	4,220
Casein	1,518,990	106,325
Totals	8,501,880	$1,804,940
Home consumption butter, (34,000 population)	1,750,000	$ 650,000

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A comparatively new branch of the dairy industry is the production of commercial casein. It is now produced extensively in the northern counties of the State. It is used as a sizing in making high-grades of paper, also for piano keys, billiard balls, and everywhere that ivory can be used.

Following are the monthly receipts of butter in San Francisco for the two years ending September 31, 1910:

Month	1908-1909 Pounds	1909-1910 Pounds
October	811,000	834,700
November	757,600	691,300
December	931,400	889,600
January	913,100	802,300
February	1,001,300	916,100
March	1,805,000	1,548,600
April	1,848,300	1,704,100
May	1,819,400	1,667,800
June	1,773,400	1,705,300
July	919,000	1,096,700
August	875,500	1,002,300
September	873,000	1,075,400
Totals	14,328,000	13,934,200

CHEESE PRODUCTION.

Although the State has nearly doubled in butter production in ten years ending 1910, the cheese production has not kept pace therewith.

Out of the fifty-eight counties in the State, twenty-eight produced cheese during the year, as compared with twenty-four during the previous year. Monterey, Sacramento and Santa Clara, in the order named, are the leading counties, and produce more than one-third of the total output of the State. Comparing the totals for the past fourteen years, we have the following:

Year.	Pounds.	Year.	Pounds.
1897	6,399,625	1904	6,133,898
1898	5,148,372	1905	6,020,672
1899	5,294,938	1906	6,418,480
1900	4,989,960	1907	5,928,942
1901	5,681,366	1908	6,162,514
1902	6,503,441	1909	5,931,194
1903	7,218,639	1910	4,648,348

Large quantities of butter and cheese continue to come from the East, notwithstanding the superior advantages presented in this State for enlarging this branch of farming and for creamery development.

ANNUAL VALUE OF DAIRY PRODUCTS.

1909		
Butter	43,899,018 lbs.	$13,186,044
Cheese	4,431,194 lbs.	632,331
Condensed Milk	4,006,876 lbs.	360,618
Market Milk and Cream Consumed		9,025,000
Calves Produced on Dairies		1,800,000
Skim Milk and Butter Milk		1,316,970
Casein	582,910 lbs.	29,145
Total		$26,350,108
1910		
Butter	45,989,140 lbs.	$14,403,798
Cheese	4,648,348 lbs.	724,212
Condensed Milk and Powdered Milk	8,299,989 lbs.	756,599
Market Milk and Cream Consumed		9,050,000
Calves Produced on Dairies		1,850,000
Skim Milk and Butter Milk		1,400,000
Casein	1,310,000 lbs.	75,000
Total		$28,259,609

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POULTRY INDUSTRY.

Poultry raising in California is a profitable industry. In a more or less practical way it has been carried on in all parts of the State, but in Sonoma, Sacramento, Colusa, Humboldt and San Benito Counties, and to a less extent in some others, the latest scientific methods are generally practiced with gratifying results. The industry is constantly extending, as the demand for poultry products greatly exceeds the home supply. Turkey-farming, as it is called, is mainly in the grain districts where the fowls can range. Hatching by incubators prevails generally. The largest incubator factory in the world is in Petaluma and other places, the increase is not sufficient to meet the demands of the turns out about 100,000 chicks per month, and runs to full capacity most of the year.

The average chicken ranch near Petaluma consists of about five acres, upon which are placed 500 to 3,000 hens. There are, of course, larger ranches which maintain 5,000 to 30,000 chickens. A person should have from $3,000 to $5,000 to equip a chicken ranch and get ready for a profitable business. In case of renting, however, about $1,500 is needed to start the prospective poultryman. The average profit on each hen is about $1.00 per year.

Notwithstanding the remarkable development of the poultry business at Petaluma and other places, the increase is not sufficient to meet the demands of the market. The rapidly expanding population of the State requires the importation of several million dozen eggs each year from Eastern points, and there is no immediate prospect of the home supply overtaking the market. This fact insures the success of all practical poultrymen who engage in the industry in California.

Petaluma is the principal shipping point of Sonoma County, and the market business done from that point, and its growth, is reflected in the following tables, which show a gain for 1910 over 1909, in egg shipments, of 138,734 dozen, and a falling off in poultry of 43,740 dozen.

SHIPMENTS OF EGGS AND POULTRY FROM PETALUMA.

Year.	Eggs, Dozen.	Poultry, Dozen.
1903	3,407,333	32,535
1904	3,493,321	33,286
1905	3,837,061	39,392
1906	4,334,321	39,938
1907	4,422,968	59,198
1908	5,312,804	83,136
1909	7,159,481	120,018
1910	7,288,215	76,278

The above figures represent actual shipments of eggs to market. It is but fair to say that over one and a quarter million dozen eggs are produced which are used for hatching and home consumption. These added to the above, bring the total production of the Petaluma district up to near eight and one-half million dozen, or over 100,000,000 eggs.

POULTRY PRODUCTION.

The daily food requirements for poultry in the Petaluma district for the year aggregated over 400 tons, or 800,000 pounds, of which wheat, corn, barley, bran, and middlings form the largest part, viz.: about 340 tons.

The monthly shipment of eggs and poultry from Petaluma for 1909 (as given by the Petaluma Poultry Journal) were:

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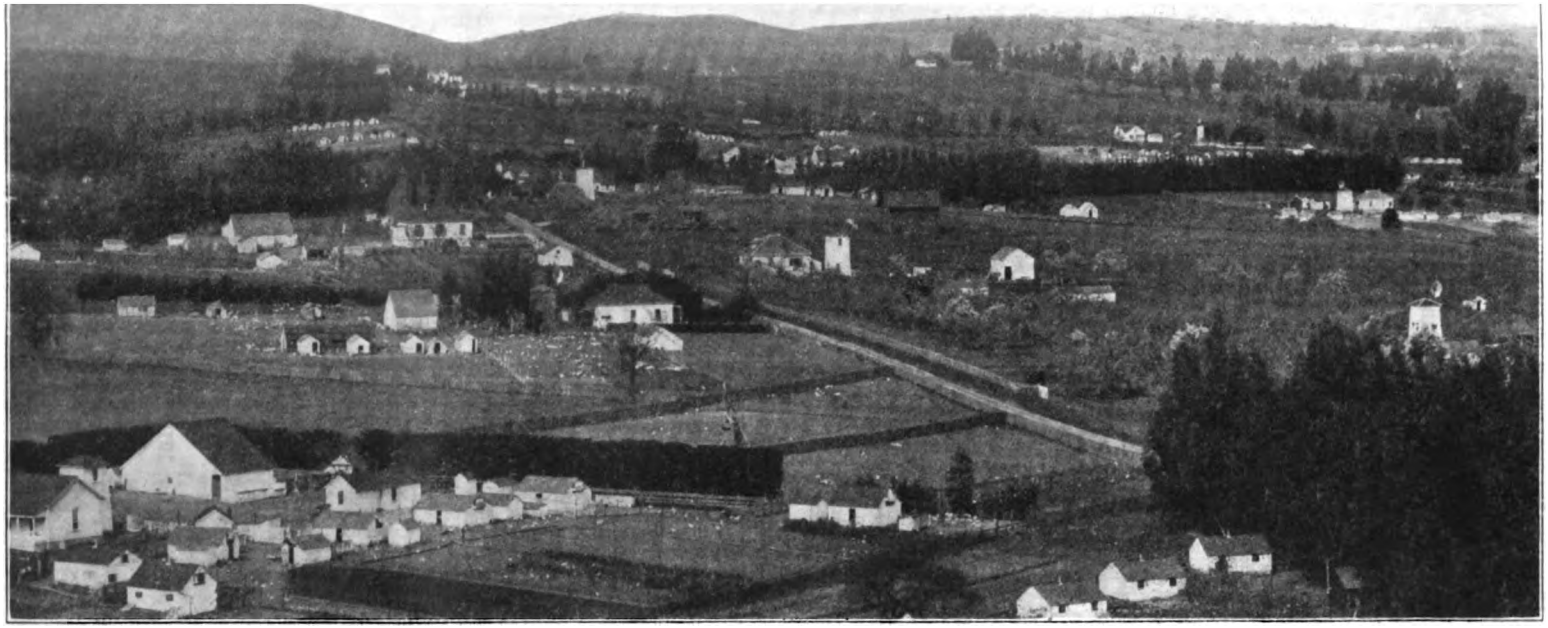

THE HOMES OF ONE HUNDRED THOUSAND WHITE LEGHORN HENS. A TYPICAL PETALUMA POULTRY LANDSCAPE.

SHIPMENT OF EGGS AND POULTRY FROM PETALUMA, SONOMA COUNTY, CALIFORNIA, FOR 1910.

Month	Eggs, Doz.	Poultry, Doz.
January	416,800	3,570
February	705,305	3,361
March	906,318	4,531
April	995,608	5,136
May	871,428	7,589
June	694,984	10,277
July	521,242	8,151
August	523,940	9,313
September	406,946	8,634
October	384,676	6,245
November	426,640	5,474
December	434,328	3,997
	7,288,215	76,278
Other points in Sonoma County	3,950,160	
Total other counties	24,529,705	
Total for the State	35,768,075	

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Fishing Industry. Both the interior and the coastal waters of California abound in food and game fish, offering inducements both to the pleasure-seeker and the profit-earner.

There are about 165 species of cold-water fauna whose proper home is north of Point Conception, and 117 species of semi-tropical fauna found south of Point Conception, beyond the reach of the cold currents of the north.

Of these, one hundred and thirty-three varieties of food fish are found in the San Francisco markets, including oysters and shell fish.

Over-fishing and destruction of spawning beds through lumbering and placer mining caused a steady decrease in supply of salmon in the Sacramento Basin. Through the work of the Federal and State Commissioners, however, the rivers have been restocked and now there are more salmon in the Sacramento River than ever before.

The State maintains seven hatcheries, at one of which, the Sisson hatchery, more salmon fry are hatched than at any other hatchery in the world. There is also one hatchery and two egg-collecting stations under Federal supervision. Some 30,762,000 fry of various kinds of food and game fishes were deposited in the streams in 1910. Over 30,000,000 pounds of the fish taken for the market are caught in the waters of the bay counties and the Sacramento River.

Besides her home fisheries, packing salmon in Alaskan waters and Puget Sound employs over thirty San Francisco vessels, many men and a large amount of California capital. The following tables show California's share of the industry, which is very large:

PACIFIC COAST FISHING INDUSTRY.

Extent of Industry.	California.	Grand Total.
Capital employed	$2,843,000	$28,238,272
Number persons employed	4,129	58,826
Earnings of labor employed	$1,356,890	$17,901,795
Value of output	2,861,632	39,706,490

SPECIFIED PRODUCTS AND VALUES OF CALIFORNIA WATERS NET TO PRODUCER.

Products.	Quantity.	Value.
Canned salmon (cases)	14,016	$ 77,088
Fresh Salmon (lbs.)	4,884,800	350,787
Mild Cured Salmon (tierces)	5,591	503,190
Frozen Salmon (lbs.)	1,800,000	72,000
Oysters and Shell Fish (lbs.)	3,692,000	428,800
Whale Products, Oil, Guano, etc		131,870
Fishes Not Mentioned Above	25,804,100	1,297,900
Total Value		$2,861,632

This includes 5,591 tierces of mild cured salmon mostly taken in San Francisco Bay and its tributaries.

Canned salmon and other fisheries products are sent by sea from San Francisco to nearly every country in the world. Shipments during 1910 were as follows:

	Quantity. (Pounds.)	Value.
Canned Salmon and other Salmon	25,924,442	$2,701,824
Other Fish and Fish Products		367,000

The Alaska Packer Association report their pack for 1910 as 971,716 cases, besides over 4,000 barrels of salt salmon.

Domestic exports of canned salmon from San Francisco since completion of 1910 pack, October, November and December, amounted to 20,301,120 pounds, valued at $2,036,830.

The codfish fleet of San Francisco, comprising sixteen vessels, took during the year 1910, 1,520,000 fish.

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Farm Animals. The following statistics, taken from the "Crop Reporter" of the Department of Agriculture, for farm animals in California, show the number, average value of the different animals, and the total value. The tables for 1910 as compared with 1909 show a decrease in total number of animals, but an increase in value of all, which makes a total gain of $15,944,000.

The number of sheep is still less than the average of previous years. This is ascribed to the extension of the forest reserve and restrictions of grazing areas. About 50,000 head of cattle, 150,000 sheep, and 50,000 hogs are slaughtered for market in the State each month, a part of which come from adjoining States. Enlarged outside markets and increasing home demand augur well for the future of the stock-growing industry.

	December 31, 1907.			December 31, 1908.		
Kinds.	Number.	Average Price.	Value.	Number.	Average Price.	Value.
Horses	396,000	$ 94.00	$37,244,000	412,000	$ 90.00	$37,080,000
Mules	82,000	113.00	9,266,000	83,000	107.00	8,881,000
Milch Cows	410,000	36.00	14,760,000	430,000	36.00	15,480,000
Other Cattle	1,155,000	19.00	21,945,000	1,155,000	17.50	20,212,000
Sheep	2,422,000	3.47	8,404,000	2,325,000	2.80	6,510,000
Swine	551,000	7.20	3,967,000	562,000	6.50	3,653,000
Total	5,016,000	....	$95,566,000	4,967,000	....	$91,816,000

	December 31, 1909.			December 31, 1910.		
Kinds.	Number.	Average Price.	Value.	Number.	Average Price.	Value.
Horses	420,000	$105.00	$44,100,000	425,000	$117.00	$ 49,725,000
Mules	83,000	122.00	10,126,000	80,000	133.00	10,640,000
Milch Cows	452,000	38.40	17,357,000	500,000	48.00	24,000,000
Other Cattle	1,120,000	20.10	22,512,000	1,100,000	23.50	25,850,000
Sheep	2,372,000	3.30	7,828,000	2,200,000	3.90	8,580,000
Swine	540,000	8.20	4,428,000	500,000	7.20	3,600,000
Total	4,987,000	....	$106,351,000	4,805,000	....	$122,395,000

Wool. The wool clip for 1910, as given by Mr. E. H. Tryon of San Francisco and others, shows some decrease from that of 1909 and less than half of what it was for many years previous to 1895. It has gradually declined in quantity during the last ten years, and for 1907-08 is below that of any previous clips for thirty years.

WOOL PRODUCTION OF CALIFORNIA, 1854-1910.

Year.	Pounds.	Year.	Pounds.	Year.	Pounds.
1854	175,000	1873	32,155,169	1892	35,802,930
1855	300,000	1874	39,356,781	1893	33,169,375
1856	600,000	1875	43,532,223	1894	36,968,400
1857	1,100,000	1876	56,550,973	1895	35,856,690
1858	1,428,000	1877	53,110,742	1896	27,195,550
1859	2,378,000	1878	40,862,091	1897	34,882,325
1860	3,055,327	1879	46,903,360	1898	28,063,240
1861	3,721,998	1880	46,074,154	1899	28,332,090
1862	5,990,300	1881	45,076,639	1900	27,750,000
1863	6,268,480	1882	40,529,119	1901	26,900,000
1864	7,923,670	1883	40,848,690	1902	21,000,000
1865	8,949,931	1884	37,415,330	1903	22,000,000
1866	8,532,047	1885	36,561,390	1904	22,000,000
1867	10,288,600	1886	38,509,160	1905	22,000,000
1868	14,232,687	1887	31,564,231	1906	24,000,000
1869	15,413,970	1888	32,569,972	1907	15,000,000
1870	20,072,660	1889	34,008,370	1908	15,000,000
1871	22,187,188	1890	34,854,640	1909	16,000,000
1872	24,255,468	1891	33,183,475	1910	15,500,000

Note.—"Pulled" wool, 4,700,000 pounds, not included in table.

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FIELD CROPS.

Grain. The following table from the records of the U. S. Department of Agriculture shows the yearly production of the four principal grain crops in the State since 1898 and of rye since 1907:

Year	Wheat Bushels 60 lbs.	Barley Bushels 48 lbs.	Corn Bushels 56 lbs.	Oats Bushels 32 lbs.	Rye Bushels 60 lbs.
1898	12,403,700	12,263,461	1,184,040	1,943,304	.....
1899	29,666,666	14,046,087	1,536,975	1,845,787	.....
1900	20,933,333	19,769,760	1,351,975	1,477,771	.....
1901	28,751,500	26,162,780	1,850,793	4,887,374	.....
1902	18,759,490	23,489,065	1,839,150	5,148,583	.....
1903	14,880,990	21,075,000	1,777,162	5,756,964	.....
1904	10,895,216	24,418,604	1,350,000	5,250,000	.....
1905	5,660,360	22,094,186	1,204,000	4,735,000	.....
1906	8,333,330	26,162,790	1,100,000	4,300,000	.....
1907	10,833,330	25,096,666	1,100,000	4,100,000	1,250,200
1908	11,680,000	25,427,000	1,600,000	6,700,000	792,000
1909	11,550,000	31,270,000	1,740,000	6,280,000	842,000
1910	17,100,000	43,400,000	1,838,000	8,325,000	986,000

Grain Crops. The yield and values of the cereal crops sown for the harvest of 1910, as given by the Department of Agriculture, are as follows:

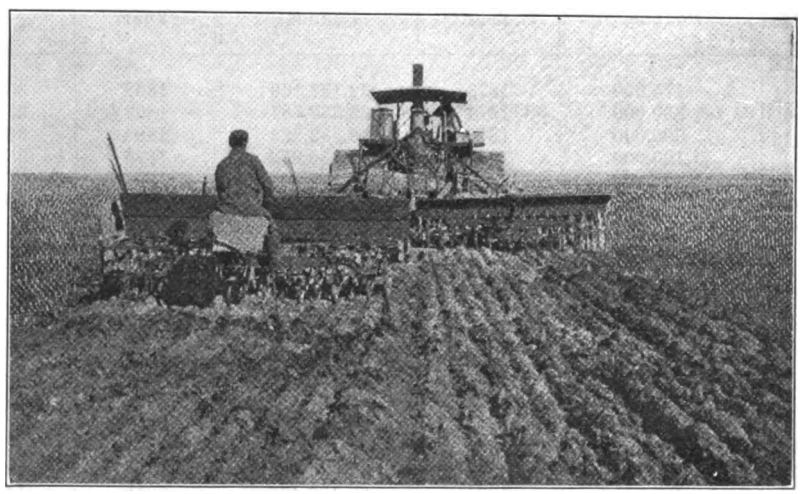
REPORT OF CROPS FOR 1910.

	Bushels.	Value.
Wheat	17,100,000	$16,074,000
Barley	43,400,000	23,870,000
Oats	8,325,000	4,162,000
Rye	986,000	848,000
Corn	1,838,000	1,470,000
		$46,424,000

It appears from department reports that wheat, formerly the most important agricultural product of the State, has gradually given place to barley, which now equals in acreage and exceeds in yield and value all the other grain crops combined.

In the seven years ended in 1906, according to the Year Book of the Department of Agriculture, the acreage in barley increased 60 per cent, the yield 160 per cent, and the value 230 per cent. The malting qualities of California barley give it a ready market abroad.

Oats are raised, in some parts of the State, more for hay than for threshing, while corn is but little used as food for work animals. Barley has long been the main grain food in California, but of late years oats have come into use to quite an extent.



PLOWING AND SEEDING WITH TRACTION ENGINE.

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HAY AND FORAGE CROP.

The hay crop of California is one of the most valuable agricultural products, being each year since 1905 worth over $31,600,000. Alfalfa is increasing yearly in acreage and value. From three to five cuttings may be made yearly on irrigated ground, with an aggregate yield of from four to eight tons to the acre.

California grain (cut in the milk) is highly prized for hay and is sent East by the train-load for feeding race-horses.

Estimates based on returns made by the county statisticians and others give the yield and value of the hay crop since 1905, as shown below:

	Yield, Tons.	Value.
1905	3,697,373	$31,687,180
1906	4,113,178	32,290,760
1907	4,009,054	32,072,959
1908 (Grain and grass, hay and alfalfa)	3,142,962	32,229,803
1909 (Grain and grass, hay and alfalfa)	3,857,315	36,644,973
1910 (Grain and grass, hay and alfalfa)	3,786,250	36,148,000

Returns of county assessors to the State Board of Equalization credit the various counties with 374,258 acres of standing alfalfa, which at six tons from the several cuttings would yield 2,245,548 tons, which at the farm value used by the Department of Agriculture, $9.60 per ton, would be worth $21,457,260.

Beans and Other Field Crops. California is famous for the production of dried beans, onions, potatoes, etc., and they add much to the resources of the State. From the "Crop Reporter" and leading authorities in handling these products the following figures are obtained of product and values for 1910:

Product.	Quantity.	Farm Value at Harvest Time.
Lima Beans	1,200,000 sacks	$4,560,000
Pink Beans	270,000 "	1,225,000
Small White Beans	300,000 "	855,000
Other varieties	885,000 "	3,196,000
Total Beans	2,655,000 "	$9,836,000
Sugar Beets	997,220 tons	4,496,297
Onions	2,352,000 sacks	3,428,000
Potatoes, Irish	8,060,000 bushels	6,840,000
Potatoes, Sweet	450,000 "	420,000
Field and Garden Seeds	.....	2,265,000
Total value		$27,285,297

Hop Crop. The hop crop in California, as elsewhere, varies greatly from year to year, influenced mainly by market prospects. The crop for 1910, according to statistics furnished the California Development Board, was 71,511 bales of 185 pounds each, or 13,299,535 pounds. Sonoma and Sacramento counties lead in the production.

HOP PRODUCTION IN CALIFORNIA, 1889-1910.

Year	Bales	Pounds	Year	Bales	Pounds
1889	35,230	6,517,550	1900	38,000	7,220,000
1890	28,130	5,204,050	1901	48,000	9,120,000
1891	36,151	6,687,935	1902	53,500	10,165,000
1892	39,800	7,363,000	1903	57,000	10,545,000
1893	51,400	9,509,000	1904	63,000	11,655,000
1894	67,500	12,287,500	1905	.....	13,135,000
1895	52,000	9,620,000	1906	108,000	20,000,000
1896	35,000	6,475,000	1907	90,000	16,650,000
1897	45,000	8,325,000	1908	63,200	11,692,000
1898	44,000	8,140,000	1909	69,688	12,892,280
1899	59,000	11,210,000	1910	71,511	13,229,535

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Beet Sugar. The beet-sugar industry of the State grows yearly in importance. In 1909 California produced over 28 per cent of the total product of the United States, and was second only to Colorado in output. In 1910 with an increased acreage and very favorable growing conditions she surpassed all her previous records and took the first place, with a production of 144,746.7 tons. Michigan, her nearest competitor, follows with 112,100 tons, and Colorado, the late leader, comes third with 98,560 tons. The beet-sugar production of the whole United States for 1910 was 498,400 tons, of which California produced nearly 30 per cent.

The existing factories and their locations are as follows:

Spreckels Sugar Co., Spreckels, Monterey County.
Spreckels Sugar Co., Watsonville, Santa Cruz County.
American Beet Sugar Co., Oxnard, Ventura County.
American Beet Sugar Co., Chino, San Bernardino County.
Alameda Sugar Company, Alvarado, Alameda County.
Union Sugar Co., Betteravia, Santa Barbara County.
Los Alamitos Sugar Co., Los Alamitos, Orange County.
Southern California Sugar Co., Santa Ana, Orange County.
Sacramento Valley Sugar Co., Hamilton, Glenn County.
Pacific Sugar Co., Visalia, Tulare County.
Pacific Sugar Co., Corcoran, Kings County.

The plants at Watsonville and the plants of the Pacific Sugar Company at Visalia and Corcoran were not operated during 1910, while one new plant was added to the active list, that of the Southern California Sugar Company at Santa Ana, in which vicinity two more plants will operate from now on in Los Angeles County.

The output of the nine active plants was 2,894,934 pounds, which at four cents per pound represents $11,579,736.

California was the pioneer in the beet-sugar industry of the country. The first plant operated in the United States was the one at Alvarado, Alameda County.

The plant at Spreckels in Monterey County is the largest beet-sugar factory in the world.

The average yield of sugar beets per acre and the average percentage of sugar in California beets is greater than in Colorado or Michigan. In some parts of California the soil and climatic conditions are superior for the cultivation of sugar beets. The large average percentage of sunlight is probably the main factor in the results obtained.

The growth of the industry in California is shown in the following exhibit for twenty-two years, beginning with 1888, that being the first year statistics were obtained and published by the State Board of Trade:

BEET SUGAR PRODUCTION OF CALIFORNIA.

Tons of 2,000 lbs.

Year.	Tons.	Year.	Tons.
1888	1,910	1900	30,319
1889	2,457	1901	68,700
1890	3,351	1902	73,761
1891	5,224	1903	65,360
1892	10,761	1904	59,147
1893	17,420	1905	64,251
1894	18,615	1906	94,285
1895	23,827	1907	72,889
1896	31,815	1908	99,613
1897	35,280	1909	126,621
1898	18,086	1910	144,747
1899	42,100		

Taken altogether, the industry is on a most satisfactory basis and bids fair to become one of the large money producers of the State.

Tobacco Growing. The adaptability of soil and climate to the growing of tobacco has been successfully demonstrated in many sections of the State, though it is not yet grown to any considerable extent.

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Rice. From experiments made in the Sacramento Valley during recent years by the rice expert of the Department of Agriculture, the adaptability of soil and climate to the successful culture of rice has been demonstrated. Two tracts of twenty-five acres each were planted in 1908 in the vicinity of Biggs on black adobe lands. From one planting a yield of 3,000 pounds per acre was harvested. This rice was awarded the gold medal at the Seattle Exposition in 1909.

Plantings made in 1910 justified the expectations of those interested both as to yield and quality.

Cotton. The adaptability of soil and climate of California to the growing of cotton has been known for some years. Of late, planting has begun on a large scale and the acreage is increasing.

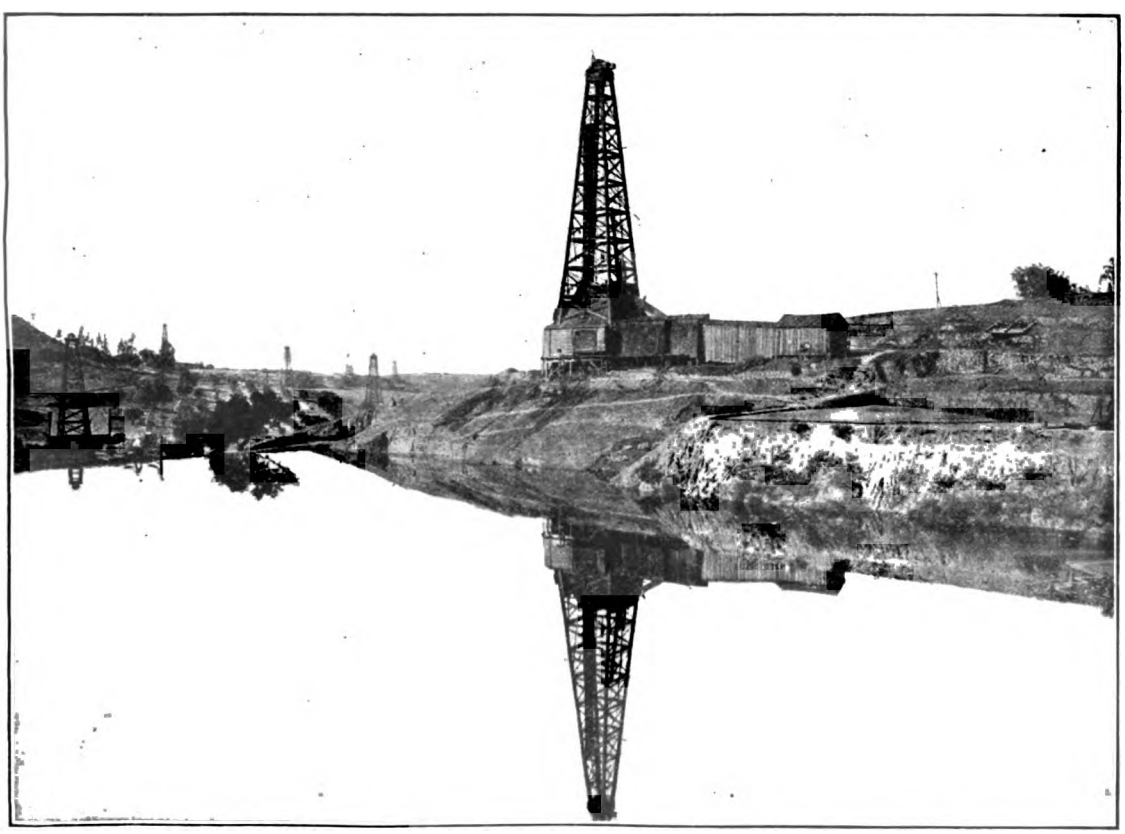
In 1909 over 500 acres were planted in the Imperial Valley, Imperial County, with seeds from Georgia and Texas. The result was most gratifying, an average of over one bale, 500 pounds, to the acre being produced, some 600 bales in all, most of which found a ready market at the California Cotton Mills in Oakland. In 1910 some 12,000 acres were cultivated, producing 8,000 bales of excellent staple. The new industry has called for the erection of eight gins besides one or more cotton-seed oil mills.

The cotton growing has proved a success also in the Coachella Valley and at Semi-Tropic in Kern County, and other places.

All the cotton produced in California will find a ready home market and probably cause additional factories to be added to the few already in operation in the State.

The Japanese are already in the field as buyers of California cotton.

Flax and Hemp. The culture of these valuable textile plants has lately received an impetus in several localities that promises important developments.



A "GUSHER" AND NATURAL RESERVOIR IN THE SANTA MARIA FIELD.

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MINERAL PRODUCTION.

Petroleum. The production of petroleum in California by districts for 1910 was as follows:

District.	Barrels.
Kern River	14,776,435
McKittrick	5,471,613
Midway	11,174,207
Sunset	9,218,904
Coalinga	18,651,470
Watsonville	36,660
Arroyo Grande	22,310
Lompoc	698,210
Santa Maria	6,909,620
Summerland	74,725
Santa Paula	492,147
Newhall	160,428
Salt Lake	3,263,104
Los Angeles	466,514
Whittier-Coyote	1,198,260
Puente	38,960
Fullerton-Brea Cañon	5,044,001
Total	77,697,568

The output of petroleum in California for the years 1900 to 1910, inclusive, from private sources, is as follows:

Years.	Barrels.	Years.	Barrels.
1900	4,000,000	1906	32,516,600
1901	8,000,000	1907	40,101,360
1902	13,973,500	1908	48,300,758
1903	24,337,828	1909	58,191,723
1904	24,423,860	1910	77,697,568
1905	34,275,701		

Production of petroleum in the United States shows a very material and constant increase during the last few years, and is an important factor in industrial development.

TOTAL YIELD OF UNITED STATES BY FIELDS.
(Official Figures)

Field.	1903	1904	1905	1906	1907	1908	1909
Appalachian	31,558,248	31,408,567	29,366,960	27,741,472	25,342,137	24,945,517	26,535,844
Lima-Indiana	24,080,264	24,689,184	22,294,171	17,554,661	13,121,094	10,032,305	8,211,443
Illinois	.....	.....	181,084	4,397,050	24,281,973	33,685,106	30,898,339
Mid-Continent	1,573,085	6,186,629	12,535,777	22,838,553	46,846,267	48,323,810	49,804,922
Gulf	18,371,388	24,631,269	36,526,323	20,527,520	16,410,299	17,318,330	11,912,058
California	24,382,472	29,649,484	33,427,473	33,098,598	39,748,375	44,854,737	54,433,010
Other	495,885	516,877	385,792	336,082	345,190	412,674	338,658
Total	100,461,337	117,080,960	134,717,580	126,493,936	166,095,335	179,572,479	182,134,274

California easily holds the position of the largest producer in the United States, producing nearly 27 per cent of the total production.

The production for 1910, approximately, as given by the United States Geological Survey, by fields, is as follows:

Field.	Barrels.
California	73,000,000
Illinois	32,000,000
Appalachian-Lima-Indiana	32,000,000
Gulf and Caddo	14,000,000
Mid-Continent-Rocky Mt.	53,000,000
Total	204,000,000

In this connection the production of petroleum in the various countries of the world is of interest. The table shows that the United States produces nearly 64 per cent of the total amount.

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WORLD'S PRODUCTION—1904 TO 1908.

(Barrels of 42 Gallons)

Country	1904	1905	1906	1907	1908	1909
United States	117,080,960	134,717,580	126,493,936	166,095,335	179,572,479	182,134,274
Russia	78,536,655	54,960,270	58,897,311	61,850,784	62,186,447	65,970,350
Sumatra, Java, Borneo	7,682,014	8,586,804	8,662,572	8,377,099	8,752,322	11,041,352
Galicia	5,947,383	5,765,317	5,467,967	8,455,841	12,612,295	14,932,799
Roumania	3,599,026	4,420,987	6,378,184	8,118,207	8,252,157	9,221,188
India	3,385,468	4,137,098	4,015,803	4,344,162	5,047,038	6,676,517
Japan	1,418,767	1,341,157	1,710,768	2,010,639	2,070,929	2,012,409
Mexico	.....	.....	.....	1,000,000	3,481,410	2,488,742
Canada	552,575	634,095	569,758	788,872	527,987	420,755
Germany	637,431	560,963	578,610	756,631	1,009,278	1,018,837
Peru	345,834	447,880	534,929	741,226	1,011,180	1,316,118
Italy	25,476	44,027	53,577	59,375	a60,000	a50,000
Other	a40,000	a30,000	a30,000	a30,000	a30,000	a30,000
	219,251,589	215,646,178	213,393,410	262,628,621	284,614,022	297,413,791

a Estimated.

The United States produces over 60 per cent of the total supply.

According to Bradstreet the oil companies of California have returned to the stockholders over $60,000,000 in dividends in twenty years.

PIPE LINES.

To take care of California's great petroleum production a vast system of pipe lines has been constructed, a brief description of which may be of interest.

Four lines in operation are in the Coalinga field. The Standard Oil Company has two lines, one of 8-inch and one of 6-inch pipe, 133 miles in length, with terminals at Point Richmond on the Bay of San Francisco. The Associated Transportation Company has one 6-inch line in operation, 110 miles in length, with terminal at Monterey; also a line at Salinas, and another line of 8-inch rifled pipe in course of construction, which will be 198 miles long when completed, from Coalinga to the terminal at Port Costa. The Producers' Transportation Company has just completed (March, 1910) and put in operation an 8-inch pipe line from Coalinga to Port Harford, about 100 miles in length, which makes a junction in the Devil's Den District with a line coming north from McKittrick, Midway and Bakersfield. It is said that the pipe line from the junction to Port Harford will soon be doubled. Shipments of crude oil are also made from this field by railroad.

The Associated Pipe Line Company has an 8-inch rifled line extending from the Kern River field to Port Costa, and the Standard Oil Company has lines running from this field to Point Richmond, a line from the Midway field connecting with them. The field is also tapped by the Southern Pacific Railroad. The crude petroleum produced in the McKittrick and Sunset fields in 1909 was shipped by rail.

Three pipe lines transport petroleum from the Santa Maria oil field. The Union Oil Company has two lines, one of 6-inch and one of 8-inch pipe, from Orcutt and Lompoc to Port Harford. The Standard Oil Company has an 8-inch line to Port Harford and the Associated Transportation Company has an 8-inch line to Gaviota. Shipments are also made from this field by rail from Careaga and Orcutt.

Other Mineral Output, 1909. The usual comparative tables furnished by the State Mineralogist are presented, showing the mineral output for a series of years. There was an aggregate increase in value of over $16,509,059.

The gold production was more than $200,000 greater than for 1908 and larger than for any year since 1883. This increase was due to the dredging operations in the Sacramento Valley.

The copper production was the largest in the history of the industry, having a gain of nearly 15,000,000 pounds over 1908, and an increase in value of $3,127,365.

Cement more than doubled in output and value over 1908, which was the record year. The construction of the Los Angeles aqueduct will account for most of the increase.

Petroleum, however, was the great contributor to the mineral production, the output being nearly 10,000,000 barrels more than in 1908, and the value nearly $6,000,000 more. The production for 1910 was 77,697,568 barrels, nearly 12,000,000 more than for 1909.

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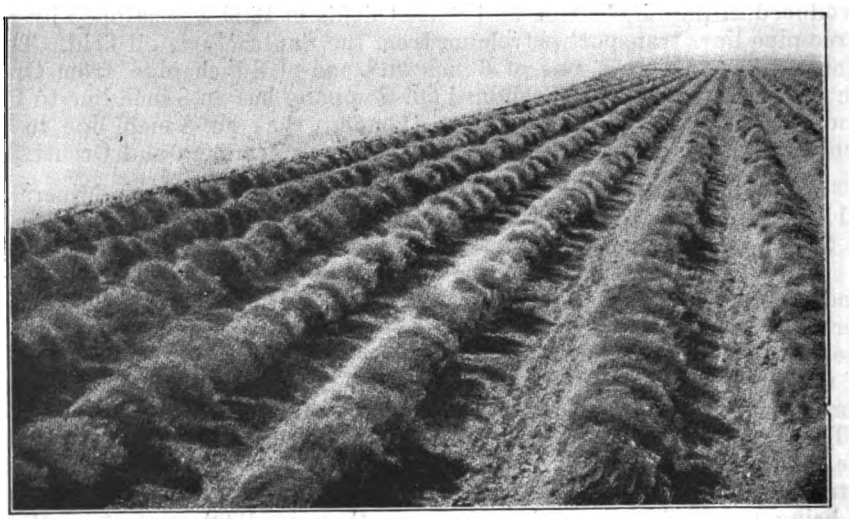
THE BACHELOR AND THREE GRACES, MARIPOSA GROVE.



AN ASPARAGUS FIELD, DELTA DISTRICT.

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MINERAL PRODUCTION OF CALIFORNIA FOR SIX YEARS.

On Authority of Lewis E. Aubury, State Mineralogist

PRODUCTS	1904		1905		1906		1907		1908		1909	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Asbestos . . . . . tons	10	$162	112	$2,625	70	$3,500	70	$ 3,500	70	$ 6,100	65	$ 6,500
Asphalt . . . . . tons	56,187	672,910	40,304	285,290	77,756	777,560	79,718	1,058,400	105,443	1,082,376	136,644	1,707,159
Bituminous Rock . . . . . tons	45,280	175,680	24,753	60,486	16,077	45,204	24,122	72,835	30,718	109,818	34,123	116,436
Borax (Crude) . . . . . lbs.	91,294,000	698,810	92,668,000	1,019,158	116,846,000	1,182,410	106,825,000	1,200,913	44,400,000	117,000	32,257,000	1,163,960
Cement . . . . . bbls.	969,588	1,539,807	1,265,558	1,791,916	1,286,000	1,941,250	1,613,563	2,585,577	1,629,615	2,359,692	3,779,205	4,968,427
Chrome . . . . . tons	128	1,845	40	600	317	2,859	302	6,040	350	6,195	436	5,309
Clays (Brick) . . . . . M	281,750	1,994,740	286,618	2,273,786	277,762	2,538,848	362,167	3,438,951	332,872	2,506,495	333,846	3,059,929
Clays (Pottery) . . . . . tons	84,149	81,952	133,805	130,146	167,267	162,283	160,385	254,454	208,042	325,147	299,424	465,647
Coal . . . . . tons	79,062	376,494	46,500	144,500	24,850	61,600	23,734	55,849	18,496	55,503	49,389	216,918
Copper . . . . . lbs.	29,974,154	3,969,995	16,997,489	2,650,605	28,726,448	5,522,712	32,602,945	6,341,337	40,868,772	5,350,777	65,727,736	8,478,142
Fuller's Earth . . . . . tons	500	9,500	13,344	38,000	440	10,500	100	1,000	50	1,000	459	7,385
Gems	. . . . .	71,000	. . . . .	148,500	. . . . .	497,090	. . . . .	232,642	. . . . .	208,950	. . . . .	193,700
Gold . . . . . oza.	. . . . .	19,109,600	. . . . .	19,197,043	. . . . .	18,782,452	809,213.52	16,727,928	. . . . .	18,761,559	. . . . .	20,237,870
Granite . . . . . cu. ft.	520,687	467,472	228,788	353,837	329,810	344,083	299,431	373,376	483,374	512,923	358,008	376,334
Gypsum . . . . . tons	8,350	56,592	12,850	54,500	21,000	69,000	8,900	57,700	34,600	155,400	30,700	138,176
Infusorial Earth . . . . . tons	6,950	112,282	3,000	15,000	2,430	14,400	2,531	28,948	2,950	32,012	500	3,500
Iron Ore . . . . . tons	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	108	124
Lead . . . . . tons	62	5,270	267	25,088	169	19,307	164	16,690	562	46,663	1,343	144,897
Lime	. . . . .	658,956	. . . . .	878,647	. . . . .	925,887	684,218	756,376	396,386	379,243	520,752	577,324
Limestone † . . . . . tons	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	230,985	406,041	273,390	297,264	337,676	419,921
Macadam . . . . . tons	532,690	414,668	1,440,455	942,508	1,066,164	870,887	1,544,617	1,082,302	2,939,901	2,446,768	3,567,120	1,636,125
Magnesite . . . . . tons	2,850	9,298	3,933	16,221	4,032	40,320	6,405	57,720	10,582	80,822	7,942	62,588
Manganese . . . . . tons	60	900	. . . . .	. . . . .	1	30	1	25	321	5,785	3	75
Marble . . . . . cu. ft.	55,401	94,208	73,303	129,450	31,400	75,800	37,512	118,066	18,653	47,665	79,600	238,400
Mineral Paint . . . . . tons	270	1,985	754	4,025	250	1,720	250	1,720	335	2,250	305	2,325
Mineral Water . . . . . gals.	2,480,320	496,946	2,194,150	538,700	1,585,690	478,186	2,924,269	544,016	2,789,715	560,507	2,449,334	465,488
Natural Gas . . . M cu. ft.	144,437	91,035	148,345	102,479	168,175	109,489	169,991	114,759	842,883	474,584	1,148,467	616,982
Paving Blocks . . . . . M	3,977	161,752	3,408	134,347	4,203	173,432	4,604	199,347	7,660	334,780	4,503	199,803
Petroleum . . . . . bbls.	29,736,008	8,317,809	34,275,701	9,007,820	32,624,000	9,288,020	40,311,171	16,783,943	48,306,910	26,566,181	58,191,723	32,398,187
Platinum . . . . . oza.	. . . . .	1,849	200	3,320	91.46	1,647	300.07	6,255	706	13,414	416	10,400
Pyrites . . . . . tons	15,043	62,992	15,503	68,958	46,689	145,895	82,270	251,774	107,081	610,335	457,867	1,389,802
Pumice Stone . . . . . tons	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	50	500
Quartz Crystals . . . . . lbs.	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	4,000	10,000	4,000	10,000	. . . . .	. . . . .
Quicksilver . . . . . flasks	28,876	1,086,823	24,655	886,081	19,516	712,334	17,379	663,178	18,039	763,520	16,217	773,788
Rubble . . . . . tons	1,764,208	1,227,209	1,183,802	774,267	489,208	547,519	744,271	832,713	1,059,044	795,006	1,964,441	1,071,701
Salt . . . . . tons	95,968	187,300	77,118	141,925	101,650	213,228	88,063	310,967	121,764	281,469	155,680	414,708
Sand (Glass) . . . . . tons	10,004	12,276	9,257	8,121	9,750	13,875	11,065	8,178	9,255	22,045	12,259	25,517
Sandstone . . . . . cu. ft.	363,487	567,181	302,813	483,268	182,076	164,068	159,573	148,148	93,301	55,151	79,240	37,032
Serpentine . . . . . cu. ft.	200	2,310	. . . . .	. . . . .	847	1,694	1,000	3,000	. . . . .	. . . . .	. . . . .	. . . . .
Silver (Com'l value) . . . . oza.	. . . . .	873,525	. . . . .	678,494	. . . . .	817,880	1,138,858	751,646	. . . . .	873,057	2,098,253	1,091,092
Slate . . . . . squares	6,000	50,000	4,000	40,000	10,000	100,000	7,000	60,000	6,000	50,000	6,961	45,660
Soda . . . . . tons	12,000	18,000	15,000	22,500	12,000	18,000	. . . . .	. . . . .	9,600	14,400	7,712	11,593
Soapstone . . . . . tons	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	. . . . .	33	280
Tungsten	. . . . .	. . . . .	52	18,800	. . . . .	189,100	. . . . .	120,587	. . . . .	37,750	. . . . .	190,500
Zinc . . . . . lbs.	. . . . .	. . . . .	. . . . .	. . . . .	206,000	12,566	. . . . .	10,598	. . . . .	3,544	. . . . .	. . . . .
Totals	. . . . .	$43,680,633	. . . . .	$43,065,497	. . . . .	$46,776,085	. . . . .	$55,697,545	. . . . .	$66,363,150	. . . . .	$82,972,209

* Crude. † Up to 1907 Lime and Limestone were reported under one head.

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FOREST PRODUCTS.

The lumber cut of California for a series of years since 1880, as given by the U. S. Government reports, presents some interesting contrasts of amount of production.

LUMBER CUT IN CALIFORNIA FOR YEARS FROM 1880 TO 1910.
From Government Report.

	M. Feet.	Mill Value.
1880	304,795	
1890	515,823	
1900	734,232	
1905	1,077,499	
1906	1,348,599	
1907	1,345,943	$23,640,966
1908	996,115	15,211,055
1909	1,144,000	17,160,000
1910 (estimated)	1,270,000	18,050,000

The cut for 1910, estimated from mill reports, cargo shipments and other sources of information, is also given.

The cut for 1910 as well as that for 1909, again largely exceeds that of 1908, which for a number of reasons fell far below the three preceding years.

KINDS OF LUMBER CUT IN CALIFORNIA IN 1910.
Quantities Approximated.

	Feet.
Redwood	600,000,000
Western Pine or White	350,000,000
Douglas Fir	110,000,000
Sugar Pine	100,000,000
White Fir	60,000,000
Spruce	30,000,000
Cedar	15,000,000
Western Hemlock	1,000,000
Oak	1,000,000
Ash and other	3,000,000
Total	1,270,000,000

In addition to the lumber cut as above, California produced about 530 million shingles and shakes, with a large number of poles, ties, etc.

The following estimate is given by the "Pacific Lumber Trade Journal" of January, 1907, as to the Pacific Coast States and Idaho, Montana and British Columbia:

	M. Board Feet.
Oregon	225,000,000
Washington	195,658,080
California	180,000,000
Idaho and Montana	100,000,000
British Columbia	150,000,000
Total	850,658,080

At the low estimate of $3.00 per thousand feet for stumpage, the value of timber in California as it stands in the forest is $540,000,000. This is a large sum, but is doubtless within the truth.

The estimated wooded area of California is 28,608,000 acres. Approximately 24,058,050 acres are in National forest reserves and 4,549,950 acres in private ownership or unreserved.

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The conservation of the forest areas of California is most intimately related to the welfare of the State. No greater calamity could befall the State than the denudation of the wooded lands. On the other hand, incalculable benefit will come from wise conservation of the forests and a reforestation of the already denuded areas. Conservation of natural resources must of necessity include the forests and the streams. Happily a wise governmental policy has saved enough of these areas to give assurance that their relation to the common welfare will not be seriously impaired.

Redwood. It is seen from the tables that redwood leads in the lumber production of the State. It produces from 40 to 75 per cent of "clear lumber." The redwood (Sequoia Sempervirens) is indigenous to California, and except for a few stunted trees in Japan, is found in no other country. This growth covers a tract on the northwestern coast of California, beginning at the northern line (there being not over 2,000 acres over the line in Oregon), and occupies a continuous district from the seacoast eastward to the crest of the Coast Range of mountains about 240 miles long (north and south) and from 10 to 20 miles wide.

In this district there were originally about 1,200,000 acres of redwood timbered lands, comprising practically the world's entire supply of this magnificent wood.

The mills have removed probably not more than 20 per cent of the original standing timber, having during the fifty years averaged 220,000,000 feet per annum. The cut since 1903 from this district (comprising the counties of Del Norte, Humboldt, Mendocino and Sonoma), has averaged nearly 400,000,000 feet.

The following figures give the annual shipments from the mills north of San Francisco Bay since and including 1900:

	Feet.
1900	209,001,022
1901	244,386,075
1902	262,597,015
1903	301,343,953
1904	324,676,960
1905	347,679,159
1906	409,702,573
1907	437,514,653
1908	356,549,880
1909	402,519,307
1910 (estimated)	450,000,000

The above figures do not represent the actual cut, as there is about 40,000,000 to 50,000,000 feet sold in the neighborhood of the mills and about 20,000,000 feet annually consumed in San Mateo and Santa Clara Counties that is cut there. Then there is to be added still the quantity consumed in making ties, laths, shingles, shakes, etc., which will not fall far short of 90,000,000 feet a year.

Pine. The Western slope of the Sierras in California, Arizona and in Oregon are covered with a mighty forest where the Sugar Pine, (Pinus Lambertiana), the White Pine (Pinus Ponderosa), and the "Bull" Pine (Pinus Jeffri), flourish. Cedar is also found there and other woods. The woods with the best timber are found at elevations from 3,000 to 7,000 feet. The general run of sugar and white pine is from 3 feet to 8 and 12 feet in diameter, while the height sometimes reaches 250 feet. The territory covered is estimated to be about 400 miles in length with an average breadth of about 20 miles. The woods are white, soft

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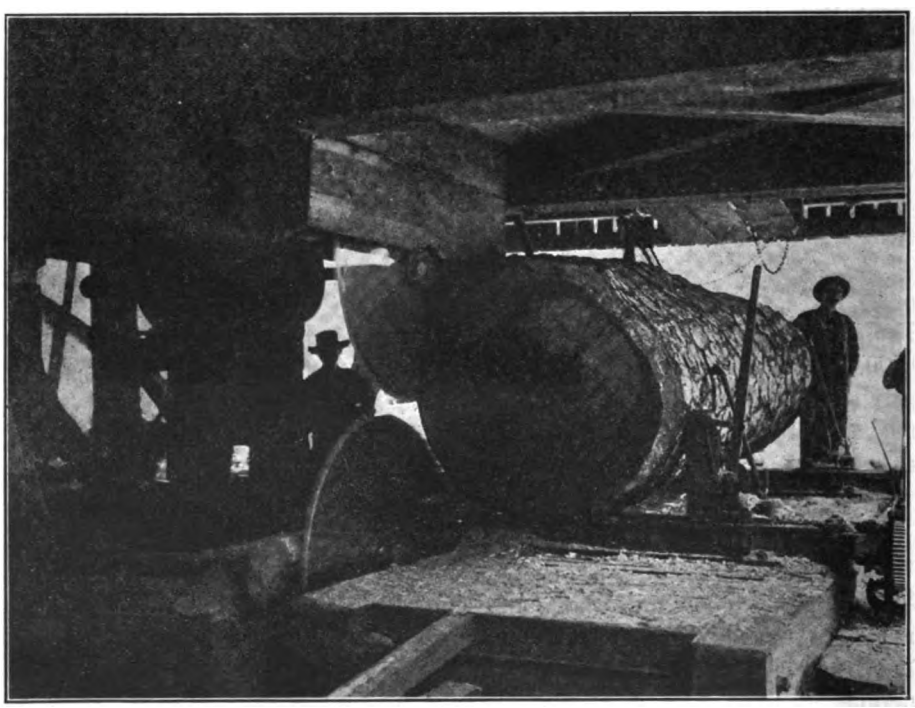
and durable and are greatly in esteem in the East where practically the whole cut is sold, outside of the inferior grades which are disposed of locally. They are unsurpassed for doors, sashes, piano key boards, matches, finish, ceiling, etc., in a word, wherever strength, durability and ease in working, cleanliness and stability are required. There are many great plants in the interior, and one agency with $1,000,000 capital, does the selling for a large number of mills. This helps to keep prices steady and always finds a market. The great railroad lines carry their product to every part of the United States. The work of lumbering is practically the same as in the redwood districts, steam machinery as a rule getting the logs to the mills, though in some instances ox teams are still used. Here, as in the redwood country, there are immense log ponds where the logs are stored away for the mills. The cut has run from 300,000,000 to 500,000,000 feet a year, this including mountain pine and red fir, but owing to the bad weather in the mountains lumbering in 1909 did not generally begin till June and the cut was short. The financial panic in the East also helped to lessen it in 1908. The present year, however, will restore normal conditions in this great section of the lumber industry. The production of 1900 and since 1905 may be given as follows:—

	Sugar Pine. Feet.	White Pine. Feet.
1900	53,558,000	200,000,000
1906	130,231,000	347,249,000
1907	115,005,000	381,700,000
1908	92,500,000	318,406,000
1909	95,000,000	225,000,000
1910	100,000,000	350,000,000



FIFTY-FIVE-INCH SAWS CUTTING A SUGAR PINE LOG.

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RAILWAYS.

The year 1910 saw notable progress in railroad extension and betterment in California.

The opening of the Western Pacific, August 23, 1910, gave large promise of future improvement in railroad service generally.

The work on the Rocklin-Colfax cut-off on the Southern Pacific Ogden route, estimated to cost $10,000,000 has been pushed vigorously, and is expected to be ready for operation by July. This cuts off some 30.8 miles; has a maximum grade of 1.5 per cent and a maximum curvature of but 6 per cent.

The electrification of the suburban lines of the same company is nearly completed and at a cost of about $10,000,000.

The Dumbarton cut-off across the lower end of San Francisco Bay was opened for traffic September 24th. This with the bay shore "cut-off," ten miles in length, from San Francisco south, gives quicker and more convenient access to the city. The cost of the two works has been $10,500,000.

The Mohave-Keeler line was completed and put in operation during the year.

Work is being continued on the Sacramento Southern, a new Southern Pacific line, via the Dumbarton cut-off, which will give a new direct all rail line between San Francisco and the Capital City.

The Santa Fe brought into operation during the year Parker cut-off of 83.33 miles in length from the Cadiz to the State line on the Colorado River. They also are putting a second main track between Daggett and Cottonwood. An extension was also made from Wahtoke to Piedra, 10.7 miles, in Fresno County.

The completion of the gap, 79 miles, between Shively and Willitts on the Northwestern Pacific, under the joint control of the Southern Pacific and Santa Fe, is near at hand and means all rail connection between San Francisco and Eureka on Humboldt Bay.

According to the figures furnished by the State Railroad Commission, the total mileage in the State is 7,545.094 miles main lines and 536.46 branches and spurs owned and controlled by sixty-one separate companies.

The mileage operated by the principal companies is as follows:

Southern Pacific System	3,651.20 miles.
Santa Fe System	1,287.89 miles.
Northwestern Pacific	374.99 miles.
San Pedro, Los Angeles & Salt Lake	73.00 miles.
Western Pacific	378.34 miles.
Yosemite Valley Railroad	79.08 miles.

The amount of money invested in California railroads is out of all proportion to the mileage, for one mile in the mountains costs more than twenty miles in the prairie States.

Electric Roads. There are thirty-five electric railway companies operating in the State, covering about 1,750 total mileage. They are distributed as follows:

ELECTRIC ROADS.

District.	Companies.
Bay Counties	10
Valleys South of Tehachapi	10
Coast Towns, San Diego to Eureka	5
San Joaquin Valley	5
Sacramento Valley	5
Total	35

The mileage of the principal electric roads is as follows:

Pacific Electric and Los Angeles Interurban	1220
United Railroad, San Francisco	271.81
Oakland Traction, Consolidated etc.	169.41
Northern Electric (Freight & Passenger road)	140

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Manufacturing. Statistics relating to manufacturing in the State are not easily obtainable to an extent that enables the Board to make full comparative tables of output or growth. Tables of the most important interests are given only. Manufacturing is a feature that should receive more attention in future than has been possible to give it in the past.

The census reports of 1910 are not yet available. The returns for 1900 and 1905 are here given from the U. S. Statistical Abstract for 1909:

	1900.	1905.
Number of Establishments	4,997	6,839
Capital	$175,467,806	$282,647,201
Wage Earners, Average Number	77,224	100,355
Total Wages	$39,889,997	$64,656,686
Cost of Materials Used	$164,894,269	$215,726,414
Value of Output	$257,385,521	$367,218,494

Fruit canning and fruit packing come under the head of manufacturing, and the output of the canning and packing houses aggregate many millions each year. In the department of dried fruit is included raisins, for which California has become famous.

The following figures, compiled for year ending September 30, 1910, and based on special investigation show the relative value of the products of the leading manufacturing industries in the San Francisco district, and are of interest in this connection:

STATISTICS OF LEADING INDUSTRIES OF SAN FRANCISCO, FOR THE YEAR ENDING SEPTEMBER 30TH, 1910.

Industry.	Number of Establishments.	Hands Employed.	Output.	Value.
Bags, other than Paper	6	200	40,000,000	$ 1,000,000
Boots and Shoes	5	950		3,000,000
Bread and other Baking Products	113	1552		5,000,000
Canning & Preserving Fruits & Vegetables	5	1450	1,350,000 cases	4,050,000
Clothing, Men's and Women's	57	2300		5,550,000
Coffee and Spice Roasting and Grinding	8	378	25,000,000 lb. coffee 1,600,000 lb. spices	4,500,000
Confectionery	15	400		850,000
Cooperage	17	400		1,500,000
Electricity	3	639		3,366,000
Flour and Grist Mill Products	10	100		2,900,000
Foundry and Machine Shop Products	91	3891	166,000 tons mach.	10,673,000
Gas	2	400	4,000,000,000 ft. gas	4,000,000
Ice Manufactured	4	60		150,000
Leather, Tanned, Cured and Finished	10	680	11,550,000 lbs.	3,000,000
Liquors, Malt	14	642	737,995 bbls.	5,166,000
Paints	15	250		2,000,000
Planing Mills	40	1300		4,000,000
Printing and Publishing, Book and Job	200	2000		5,500,000
" Newspapers and Periodicals.	168	2496	73,000,000 yearly	5,569,500
Rope and Cordage	1	250		1,500,000
Sugar	2	1000	225,000 tons sugar 14,000 tons syrup	23,684,000
Slaughtering and Meat Packing, Wholesale	23	834		12,825,500
Slaughtering, Wholesale, not Including Meat Packing	5	500		7,174,500
Tobacco, Cigars and Cigarettes	28	1300	84,000,000 cigarettes 288,000 lb. tobacco	
Textiles	none			
Total Value				$121,206,500

Half of sugar in city, half in county.
Bread includes crackers, etc., $1,500,000. (300 hands.)

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The total value of the products of manufactures in the San Francisco district, according to the census of 1905, was $159,033,080, an increase of 33.4 per cent over the figures reported in 1900. The figures of the seven surrounding counties, $79,070,583, give an increase over 1900 of 41.3 per cent.

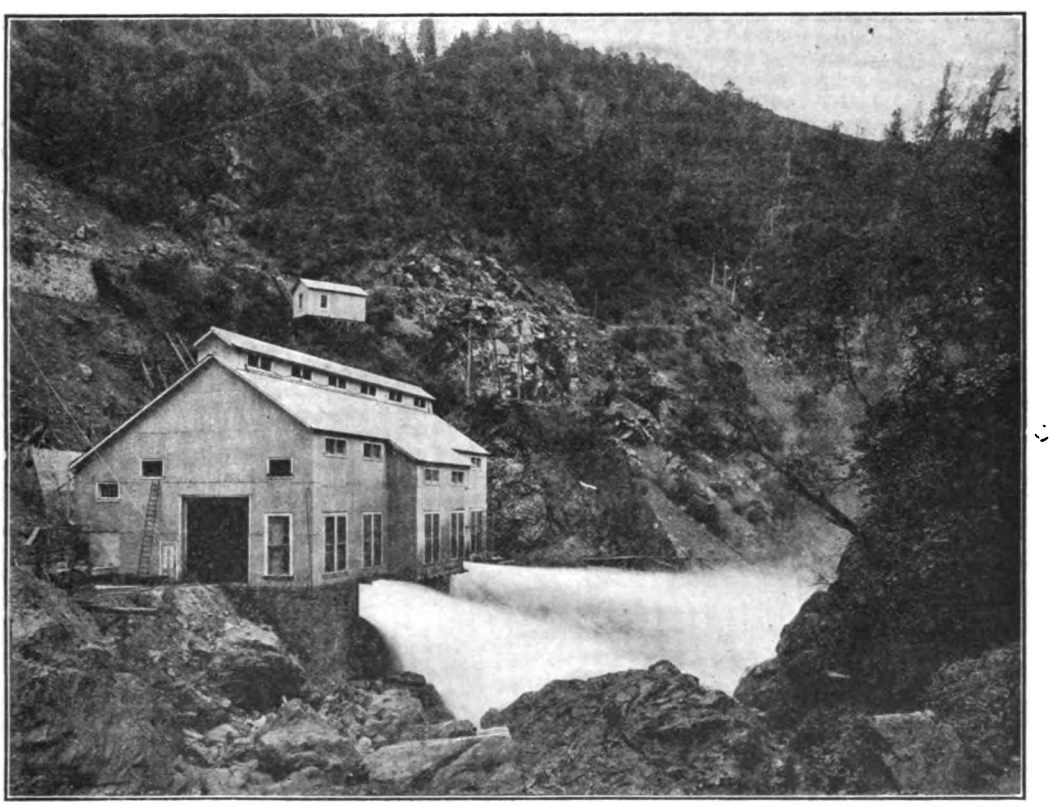
Los Angeles claims second place in value of manufactures, with an estimated output for 1910 of $85,000,000; Oakland comes next with $60,000,000 (1908); Sacramento, San Jose, Stockton and Fresno follow in the order named.

Water-Power and Electrical Development. Closely connected with the future of manufacturing development is the fuel and water-power supply convertible into electrical power. The statistics of oil production are given on a preceding page. The following extract from Water Supply Paper No. 234 in the report of the U. S. Geological Survey is of much interest:

CALIFORNIA'S WATER-POWER.

DEVELOPED.			UNDEVELOPED.		
Source.	Wheels.	Horsepower.		Minimum.	Maximum development.
Sacramento River	576	280,735	Sacramento River	2,420,000	4,580,000
San Joaquin River	159	86,224	San Joaquin River (including Tulare Lake drainage)	759,000	3,140,000
Minor streams, southern	74	50,183	Minor streams, northern	600,000	1,200,000
Minor streams, northern	176	25,440	Sierra Nevada drainage	132,000	202,000
Sierra Nevada drainage	74	17,737	Minor streams, southern	36,400	88,300
San Francisco Bay	11	6,455			
Totals	1,070	446,744	Totals	3,947,000	9,210,300

With abundant oil for fuel for manufacturing power and motive-power on the one side, and with over 9,000,000 horsepower in water-power yet to develop, and a widening of markets both at home and in the Orient, California can face her industrial future with confidence.



ELECTRIC POWER PLANT IN THE SIERRA NEVADA MOUNTAINS.

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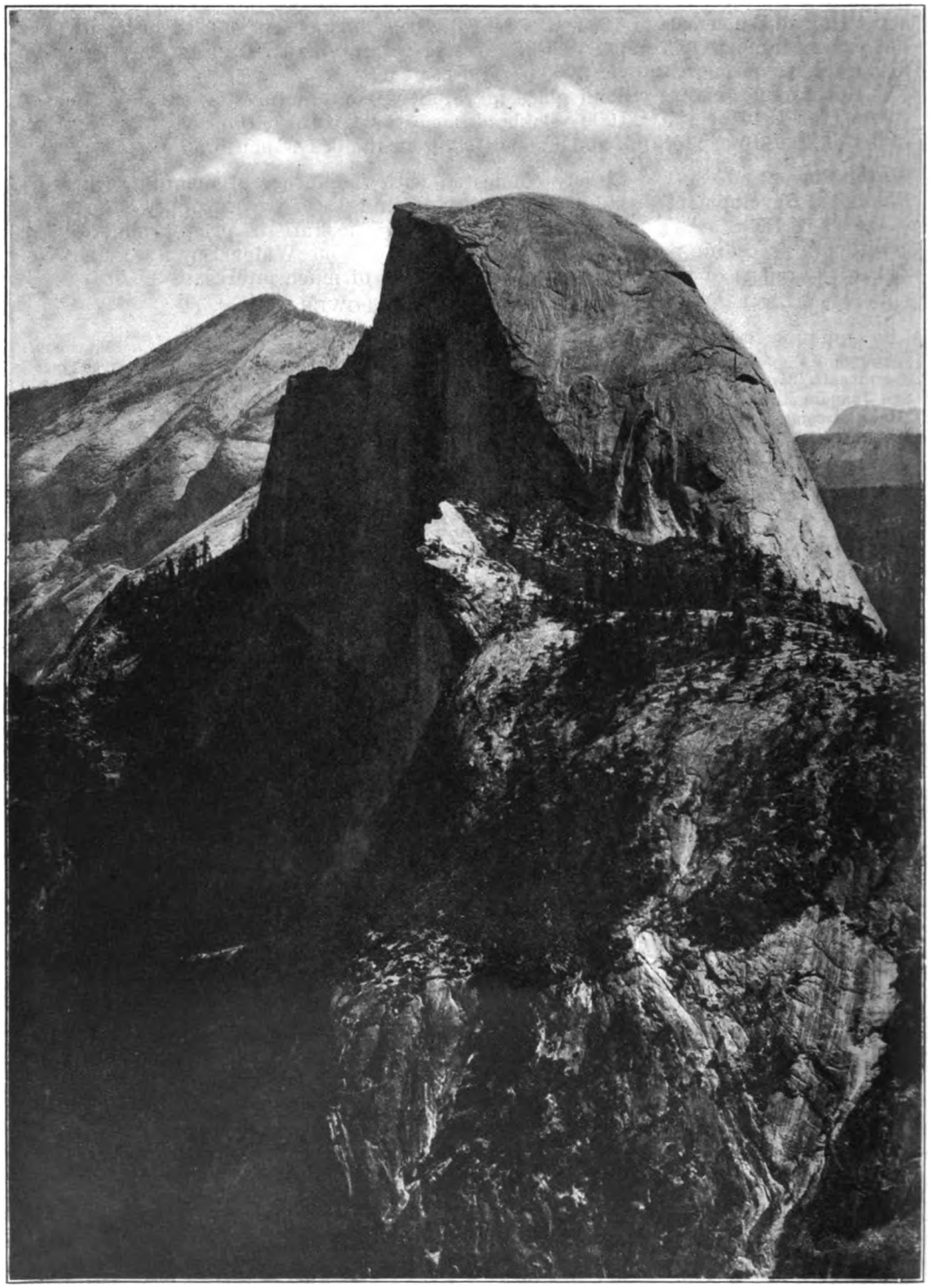

THE HALF DOME, YOSEMITE VALLEY.

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Summary of the farm values of products of the soil for 1910, marketed by the producer and for the most part shipped out of the State. Consumption by producers not included except in case of animals slaughtered for consumption by rural population.

Compiled from data gathered from transportation companies and other authoritative sources.

	Value.	Total Values.
Orchard Products—		
Fresh Deciduous Fruits	$15,479,200	
Citrus Fruits	32,790,000	
Dried Fruits, including Prunes	17,793,000	
Canned Fruits	10,000,000	
Olives and Olive Oil	2,200,000	
Nuts	3,375,000	
		$ 81,637,200
Vineyard Products—		
Table Grapes	4,452,200	
Raisins	4,640,000	
Wine and Brandy	25,500,000	
		34,592,200
Garden Products—		
Fresh	5,775,000	
Canned	4,500,000	
		10,275,000
Dairy Products		28,259,909
Poultry Products	16,790,000	
Honey, Wax, etc.	910,000	
		17,700,000
Farm Products—		
Barley	23,870,000	
Wheat	16,074,000	
Oats	4,162,000	
Corn	1,470,000	
Rye and other Grain	1,200,000	
		46,776,000
Grain and Grass Hay and Alfalfa		36,148,000
Hops	1,635,645	
Sugar Beet	4,496,490	
		6,132,135
Other Field Crops—		
Potatoes	6,840,000	
Potatoes, Sweet	420,000	
Beans	9,836,000	
Onions	3,428,000	
Seeds and Sundry other	2,265,000	
Kaffir Corn, Broom Corn, etc.	400,000	
Melons	1,650,000	
		24,839,000
Fish and Game		5,000,000
Forest Products—		
Lumber	18,050,000	
Shingles, Shakes, Laths, etc.	1,800,000	
Ties—Tan Bark	2,250,000	
Poles, Piles, Mine Timbers, Staves	2,000,000	
Cordwood, Wood Pulp, Extract, etc.	5,700,000	
		29,800,000
Petroleum (for 1910) 77,697,568 barrels		45,000,000
Minerals—		
Gold (1909)	20,237,870	
Copper (1909)	8,478,142	
Other Minerals (1909)	21,869,010	
		50,585,022
Farm Animals and Products—		
Increase	15,944,000	
Slaughtered for market in cities	19,000,000	
Slaughtered in rural districts and towns	10,000,000	
Wool and Mohair, etc.	2,200,000	
Hides, Tallow, etc.	3,000,000	
		50,144,000
Sundry others not included above—		
Nursery Products	2,000,000	
Florist Products	800,000	
Fruits marketed in cities	9,500,000	
Vegetables marketed in cities	14,500,000	
Cider, Vinegar, etc.	1,600,000	
		28,400,000
Grand total		$495,288,466

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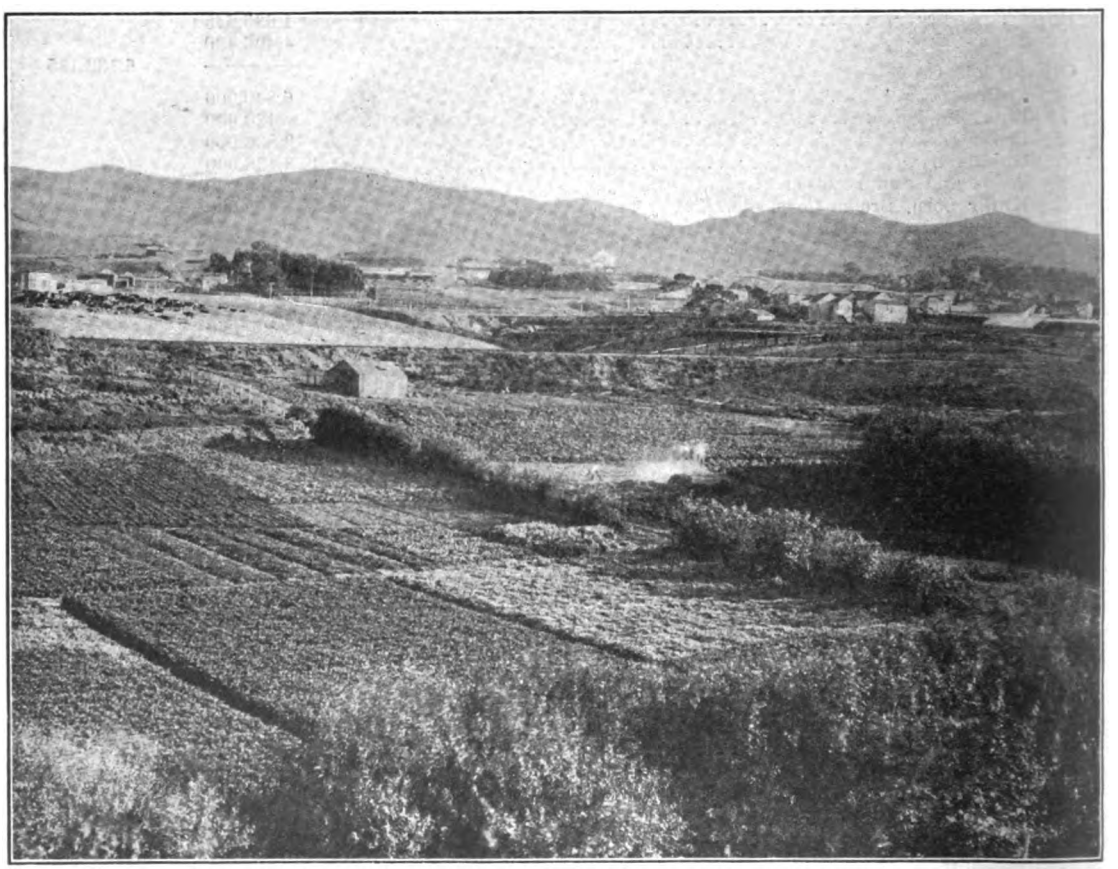
A. L. McDONALD, Secretary. ROBERT NEWTON LYNCH,
Approved by the Board and ordered printed. Vice-President and Manager.

Note.—For data and statistics used in this report we are indebted to the Controller of U. S. Treasury; Prof. Alexander G. McAdie, California Section U. S. Weather Bureau; U. S. Department of Agriculture; State Agricultural Society; State Superintendent of Banks; State Mining Bureau; State Controller; San Francisco Clearing House; California Fish Commission; Superintendent of Public Instruction; State Dairy Bureau; State Railroad Commission; Auditing, Freight and Engineering Departments of Southern Pacific, Santa Fe and Western Pacific Railroads; United Railroads of San Francisco; Wine and Spirit Review; Petaluma Poultry Journal; California Fruit Grower; Pacific Rural Press; Pacific Lumber Trade Journal; Oakland Tribune; California Wine Association; Italian Swiss Colony; Frank D. Flint & Co.; Adolph Koshland; George Shima; Peter J. Shields; W. E. Sprott of the Tulare County Citrus Fruit Exchange; California Produce Co.; Campodonico Burns Corriea Co.; E. W. Maslin; E. H. Tryon; E. Clemens Horst; J. K. Armsby Co.; Griffin & Skelly Co.; Castle Bros.; many lumber dealers; the several beet-sugar refineries; Merchants' Exchange; Chamber of Commerce of San Francisco; Boards of Trade and Chambers of Commerce of various counties of the State; Board of Supervisors and Board of Public Works, San Francisco; Boards of Supervisors of various counties of the State; Sacramento Valley Development Association; and many growers, producers, and others throughout the State.



INTENSIVE FARMING IN CALIFORNIA.

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IN MEMORIAM.

Arthur R. Briggs, died October 24, 1910.

The death of Arthur R. Briggs, member of this Board and of its Executive Committee, deprived California of an energy and influence that may not again be represented by one man.

His long, active membership in commercial bodies in the San Joaquin Valley, and his ownership and management of estates in that and the Sacramento Valley gave him many-sided knowledge of many things in the productive conditions of California.

As Director and Manager of the State Board of Trade, this knowledge proved to be an asset of the rural land owner and a guide to the land-seeker and settler, and Mr. Briggs became the foremost public servant and non-commissioned officer in the State. From him the State Board of Trade had its impulse to become the sole agent and helper of the rural land owner and land worker. Himself the producer of a variety of crops on his own lands, he felt in his own fortunes every turn in the fortunes of his fellow producers. Like them, he faced the unpitying elements when it was their mood to destroy, and, like, them, saw his vines and trees fruit and his fields change from seed time to harvest under the kindly sun.

He made the State Board of Trade the powerful agent of the producers of California. That was his great and final service to his State. Did unwise laws or their unwise administration threaten the producer, he put the power of organization against the wrong, and in no case failed to right it. If the orchardist stood powerless before the invasion of strange insect pest, helpless while his crops vanished, Mr. Briggs again used the power of organization effectively, and the orchards were no longer barren.

The story of his service to his fellow men is more than a chapter. It is a book.

The passing of such a man casts a wide shadow. To his old colleagues in this Board it is a personal sorrow. To his class, the rural producers of California, it is the loss of one who was a friend in every need.

We record this ascription to his memory, as a heartfelt expression of appreciation of one who in all relations was a whole man.

April 8, 1911. COL. JOHN P. IRISH.

BY THE FRESNO COUNTY CHAMBER OF COMMERCE.

WHEREAS, In the fullness of years and the notable accomplishments of a busy career, Arthur R. Briggs has been removed by death from the activities of a useful life; therefore be it

Resolved, That in the death of Mr. Briggs the State has lost a distinguished industrial leader, Fresno County one of its most active pioneer developers, and this Chamber of Commerce one of its old and most loyal members.

The members of this body feel that the passing of Arthur R. Briggs while yet in the midst of useful activities is not only a loss to California and the county of Fresno, but a bereavement that is keenly felt by a very large number of warm, personal friends. To these the loss is irreparable and to them the sincere sympathy of this Chamber is extended. WILLIAM ROBERTSON, *Secretary.*

BY THE SACRAMENTO VALLEY DEVELOPMENT ASSOCIATION.

Resolved, That the Sacramento Valley Development Association learns with deep regret of the death of the late Arthur R. Briggs, who, for many years, was closely identified with development work in California, and takes this means of expressing its appreciation of his able and conscientious activities in the upbuilding of this State; and be it further

Resolved, That a copy of this resolution be spread upon the minutes of this Association and that a copy be sent to the California Development Board and the relatives of the deceased.

Adopted at the regular monthly meeting of the Executive Committee of the Sacramento Valley Development Association held in Sacramento, California, November 19, 1910. (Signed) M. DIGGS, *President.*

(Signed) O. H. MILLER, *Secretary.*

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APPENDIX

The appended articles are furnished by recognized authorities on the subjects treated, and answer many inquiries made by homeseekers.

CLIMATE OF CALIFORNIA.

By N. P. Chipman.

California must be counted among the most valuable possessions of the United States for many reasons; chiefly, however, because of the matchless climate of the State and the high economic value it bestows upon a large area of arable land whose coast line measures 850 miles from point to point (about 1,000 miles of actual coast), the average width of the State being about 200 miles. The south boundary line of latitude emerges on the Atlantic Coast near Savannah, Georgia, and the north parallel near Boston, Massachusetts. Between these two latter points lie ten States of the Union. It counts for something to the nation that this extended coast line, on the Pacific Ocean, is fortressed by a region capable of supporting many millions of people and that the coast to the Canadian boundary is backed by a country of almost boundless resources.

It is not generally appreciated that all of France, all of Italy north of Rome, and half of Spain lie **north of the north boundary of California.** This relative position on the west coast of our continent would suggest a mild climate, but not necessarily its unique and exceptional character. It is the purpose of the writer to bring to public attention the principal features of this climate and to show its economic value.

Professor Alexander G. McAdie, District Forecaster of the United States Weather Bureau, San Francisco, states that the climate of California is controlled by four great factors: (1) The movements of the great continental and oceanic pressure areas (commonly called "high" and "low"), together with the movements of individual pressure areas: (2) the prevailing drift of the atmosphere in temperate latitudes from west to east; (3) the proximity of the Pacific Ocean, with a mean annual temperature near the coast line of 55 degrees, Fahrenheit, a great natural conservator of heat, to which is chiefly due the moderate range of temperature along the coast from San Diego even to Tatoosh Island (extreme northwest coast of Washington); and (4), the exceedingly diversified topography for a dis-

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tance of 200 miles from the coast inland. To this diversified topography is due the fact that California is a land of many climates, "from the hottest subtropical to the cold temperate, and from the driest desert to the most humid regions of the higher mountains and northern coast."

The Sierra Nevada Mountains form a natural boundary line on the east, rising gradually from the west to a height of from 8,500 to 14,000 feet, much above the snow-line, and falling off to the Nevada plateau, which is about 4,000 feet above sea-level. The Coast Range Mountains form a broad belt, traversing the entire coast, and consist of two or three parallel ranges from 3,200 to 5,000 feet high, and between these ranges are many rich valleys, some of large extent. The Coast Range merges into the Siskiyou Mountains on the north, a connecting link with the Sierra Nevada, crowned by Mount Shasta; and the Tehachapi Mountains, far to the south, form another connecting link.

Between the Sierra Nevada and the Coast Range Mountains and these connecting mountain links lies the great central valley of California, about 400 miles long and from 50 to 60 miles wide; an agricultural district of great fruitfulness, comprising quite one-ninth of the State. There is but little waste land in it. The northern portion is blessed by ample rainfall, and the southern part, when watered, is everywhere very productive, as is the entire valley. The Sacramento River runs south through the northern portion (Sacramento Valley), rising near Mount Shasta; the San Joaquin River runs north through the southern portion (San Joaquin Valley); the two rivers uniting near the middle of the great valley and flowing westward into San Francisco Bay, and thence through the "Golden Gate" into the Pacific Ocean.

There is here a wide break in the Coast Range through which the summer trade winds find their way into the interior, an important factor in the climatic conditions of the valley. The sea-breeze blows up stream, north into the Sacramento Valley and south into the San Joaquin Valley, thus tempering the heat of the great valley. This influence, together with the dryness of the atmosphere, renders the occasional high temperatures of these two valleys more easily endurable at 110 degrees than is 95 degrees in the humid regions of the Eastern States.

South of the Tehachapi Mountains the Sierra Nevada Mountains continue at less elevation, and are locally called Sierra Madre. The wonderfully developed region known as Southern California lies west. On the east is the Mohave desert, and south and east the Colorado desert; important regions of the State as yet but partially developed, but of great fertility by the application of water, which the genius and enterprise of the people are rapidly bringing in touch with the land. As in the north, the breaks in the Coast Range and in the Sierra Madre become important factors in modifying the climate of the interior. In Southern California and in Central California (San Joaquin Valley) extensive irrigation systems already in operation supply the comparative lack of rainfall. Irrigation is also being extensively developed in the Sacramento Valley.

Winds. The prevailing winds come from the ocean and are principally from the southwest landward, producing a cool summer climate along the immediate coast. Fogs sometimes sweep in from the ocean, more or less unfavorably affecting the enjoyment of the climate, but by their moisture contributing to the growth of vegetation. These fogs are less harsh on the south coast. The heat rising from the great valley draws a strong current from the trade winds through the Golden Gate that divides as it passes and extends south to the Tehachapi Mountains and north to Mount Shasta, rendering the air of the valley more delightful. The same drift of the trade winds tempers the air far into the interior in Southern California. The high mountain barrier on the east, through the length of the State, deflects the cold winds that sweep down over the Nevada plains in winter from Alaska and prevents their entrance into the valley regions of California. Dry north winds sometimes blow through the great valley in summer, raising the temperature, and are occasionally injurious to growing crops, but they seldom continue more than three or four days, when they are succeeded by the

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Stations.	Counties.	Elevation, feet.	Temperature Degrees Fahrenheit.			Precipitation, inches.		Rainy Days.	Sky.			Part of Country.
			Annual Mean.	Highest.	Lowest.	Total for year, inches.	Total Snowfall inches.		Clear Days.	Partly Cloudy Days.	Cloudy Days.	
Independence	Inyo	3,907	58.7	102	10	2.37	2.3	18	241	98	26	Mountain and High Plateau.
Hornbrook	Siskiyou	2,154	47.2	101	17	6.90	9.5	22	284	49	32	" " " "
Alturas	Modoc	4,460	47.6	100	—30	14.16	35.0	77	202	99	66	" " " "
Dunsmuir	Siskiyou	2,285	55.1	104	16	41.36	58.0	70	244	1	120	" " " "
Quincy	Plumas	3,400	50.2	97	—10	23.65	75.0	39	268	30	67	" " " "
Summit	Placer	7,017	45.6	90	2	33.90	257.0	52	254	12	99	" " " "
Tamarack	Alpine	8,000	40.9	83	—29	37.30	302.0	65	223	56	86	" " " "
Yosemite	Mariposa	3,945	51.6	99	0	21.51	72.0	51	237	86	42	" " " "
Redding	Shasta	552	63.2	108	26	24.00	1.2	66	225	49	91	Sacramento and San Joaquin Valleys.
Red Bluff	Tehama	307	62.9	111	26	14.59	0.4	62	226	54	85	" " " " "
Orland	Glenn	254	63.0	113	26	11.51	0	50	254	62	49	" " " " "
Colusa	Colusa	60	...	105	25	...	...	...	...	...	...	" " " " "
Sacramento (1)	Sacramento	71	59.6	103	28	7.78	0	46	230	63	72	" " " " "
Stockton	San Joaquin	24	58.3	102	25	8.39	0	40	268	55	42	" " " " "
Merced	Merced	173	62.3	104	26	8.34	0	34	275	0	90	" " " " "
Fresno	Fresno	293	64.4	110	25	4.88	0.6	35	205	96	64	" " " " "
Bakersfield	Kern	404	67.4	110	30	5.31	0	23	280	43	42	" " " " "
Fruto	Glenn	624	62.0	111	26	11.80	T	33	274	1	90	Foothills, Sac. and San Joaquin Vals.
Oroville (near)	Butte	250	62.4	108	25	12.22	0	36	216	47	102	" " " " " "
Nevada City	Nevada	2,580	55.4	101	8	32.17	38.0	73	248	31	86	" " " " " "
Rocklin	Placer	249	61.1	107	24	15.30	T	40	250	18	97	" " " " " "
Placerville (B. R.)	El Dorado	1,875	...	101	17	28.16	9.0	52	266	48	51	" " " " " "
Jamestown	Tuolumne	1,471	59.7	109	14	20.76	17.0	43	287	44	34	" " " " " "
Lemon Cove	Tulare	600	66.7	118	24	8.78	0	25	246	49	70	" " " " " "
Reedley	Fresno	347	63.9	112	26	5.94	T	17	217	25	68	" " " " " "
Caliente (B. R.)	Kern	1,290	...	108	34	5.18	0	18	306	7	52	" " " " " "
Eureka	Humboldt	64	50.9	74	28	29.65	0	116	59	117	189	Sea Coast.
Point Reyes	Marin	490	51.4	83	35	12.12	0	75	104	93	168	" "
San Francisco	San Francisco	207	55.2	90	36	12.38	0	60	156	114	95	" "
Monterey	Monterey	15	57.4	86	26	12.35	0	35	293	41	31	" "
Santa Barbara	Santa Barbara	130	59.3	97	31	10.95	0	36	268	69	28	" "
San Diego	San Diego	93	60.7	96	34	5.75	0	24	231	95	39	" "
Los Angeles	Los Angeles	293	63.1	100	33	4.89	0	27	194	119	52	Southern California.
Riverside	Riverside	851	64.2	110	27	4.68	0	24	237	91	37	" "
Escondido	San Diego	657	62.5	103	26	9.72	0	30	74	277	14	" "
Elsinore	Riverside	1,284	63.2	111	20	6.37	0	20	279	41	45	" "
Redlands	San Bernardino	1,352	64.0	108	25	6.31	0	29	217	93	55	" "
Santa Rosa	Sonoma	181	56.0	100	20	17.97	0	69	195	89	81	West of Coast Range.
Mount Tamalpais	Marin	2,375	55.6	93	21	15.46	2.1	74	193	78	94	" " " "
Lick Observatory	Santa Clara	4,209	53.5	88	18	18.85	22.5	68	237	72	56	" " " "
San Jose	Santa Clara	95	57.0	102	25	7.66	0	54	211	86	68	" " " "
Hollister	San Benito	284	56.6	102	24	8.79	1.5	47	229	77	59	" " " "
Los Gatos	Santa Clara	600	58.1	103	28	16.58	0	47	257	52	56	" " " "
Paso Robles	San Luis Obispo	800	58.5	110	16	9.82	T	30	281	30	54	" " " "
Ojai Valley	Ventura	900	61.5	108	24	10.82	0	36	267	77	21	" " " "
Palm Springs	Riverside	584	72.7	118	28	3.94	0	10	262	69	34	Southeastern California.
Calexico	Imperial	0	73.4	116	24	0.64	0	3	276	53	36	" "
Mecca	Riverside	-185	72.4	116	20	1.15	0	4	295	51	19	" "

T.—Indicates trace of precipitation.
B. R.—Broken Record.

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balmy and cool ocean breezes. Along the immediate coast the average winter and summer temperature differs only about four degrees, and one of the characteristic features of the San Francisco climate is exemplified by the sight of furs worn by ladies over summer garments, and fires in summer are not infrequent.

All over the Coast, however, there are thousands of sheltered nooks and small valleys and sequestered spots, where the fogs and harsh winds of the Coast have no appreciable effect and where the climate is charming and sunny to the last degree, both winter and summer.

Rainfall. The terms "winter" and "summer," as commonly used in the Eastern States, have no application in California. The year is more properly divided into "rainy season" (winter) and "dry season" (summer). Practically all the rain falls from about the first of November until April; the remaining months of the year are rainless, except in some parts of the mountains and on the Coast north of Cape Mendocino, where occasional summer showers occur. Cereal crops mature in early summer after rain ceases, and no housing of crops is necessary for protection against rain in harvest time.

The rainfall of California is a characteristic feature of the climate. A word as to its source and cause will be interesting. Professor McAdie points out that over the North Pacific Ocean in winter there exists an area of low barometer (latitudes 40 and 60 degrees north and 130 degrees west to 140 degrees east longitude), while an area of high pressure overlies the greater part of North America with a southwest extension to the tropics and west to the one hundred and sixtieth meridian. He says: "We shall find that typical wet winters on the California coast occur when this great North Pacific 'low' extends well eastward, overlying the continent west of a line drawn from San Francisco to Calgary (Canada). At the same time the great continental high area apparently recedes to the southeast. On the other hand, the pressure distribution characteristic of a 'dry' winter on the California coast is marked by the prevalence of the continental 'high' over the entire country west of the Rocky Mountains."

Our winter rain storms (barring an occasional one coming in from the ocean unheralded) have their origin off the coast of Vancouver, and curiously enough are attended in the Sacramento Valley by **south** winds. The storms diminish in intensity as they travel south, tapering off as they approach Southern California. The table will show this graphically, from which will be seen also the great variations of rainfall within the State, and even within the great valley. In 1910, for example, the rainfall at Eureka, Humboldt County, on the immediate coast, was 29.65 inches, and at San Diego but 5.75 inches. At Redding, Shasta County (interior), the rainfall was 24 inches; at Red Bluff, forty miles south, 14.59 inches; at Sacramento, 7.78 inches; Fresno (center of San Joaquin Valley), 4.88 inches; Bakersfield (extreme southern point of valley), 5.31 inches. In the Sierra Nevada Mountains the rainfall increases about one inch for every hundred feet elevation. It will be observed that the rainfall south of Tehachapi Mountains (Southern California) is greater than at the extreme southern portion of the San Joaquin Valley.

The direction of the Coast valleys exerts striking influence upon rainfall and temperature, dependent upon the facility for the trade winds to reach them. The climatic and agricultural character of the foothills, up to 2,000 or 2,500 feet, is much the same as in the valley, although the character of the soil is different. Even higher, fine deciduous fruits are grown. Still higher are the lumbering and mining camps, and thousands of cattle and sheep are herded in summer, where in winter the mountains are deeply covered with snow. Illustrative of the characteristic variations of climate, it may be stated that in the vicinity of Summit, Placer County, elevation 7,017 feet, the temperature was 2 degrees above zero, and the snowfall for the year was 257 inches. At Rocklin, Placer County, 30 miles west, elevation 249 feet, the lowest temperature was 24 degrees above zero. All the natural ice consumed in California was made near Summit, while oranges were being gathered for market around Rocklin.

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Temperature I have prepared the foregoing table from the "Annual Summary, California Section, of the Weather Bureau," for 1910. It shows not only temperature, but also rainfall, elevation of points above the sea, clear and cloudy days. I have taken illustrative points in Northern and Central California, the Coast country and the mountains. It will be noted that while the annual mean temperature of the Pacific Coast does not differ greatly from the annual mean of the Atlantic Coast, the average summer and average winter here and on the Atlantic are wide apart, and the extremes between the highest and lowest temperature are here not very great. It is this exemption from extremes of temperature that constitutes the charm, and healthfulness as well, of the Pacific Coast.

In the interior, especially in the great valley, the seasons show greater extremes of temperature, but, as already suggested, the dryness of the air renders these extremes less felt than on the Coast, where the air is more moist. The limit of winter cold is the test of what may be grown rather than the average temperature.

And so we find citrus fruit flourishing from the north to the south end of the great valley, and orange growing is a leading industry in several counties of that valley. In Southern California both the heat and the cold are comparatively milder, although the readings of the thermometer do not much differ from the points north of the Tehachapi. It is shown by the table that there were 211 clear days in San Jose as against 194 in Los Angeles during the year, although there were twice as many rainy days in San Jose. Abundant sunshine is also found in the interior. For example, Sacramento, in the north, had 230 clear days, and Riverside, in the South, 237. In truth, the California of "sunshine, fruit and flowers" is pretty nearly the whole State, below high mountain elevations.

Climate Unchanging. As far back as we have any recorded history, and behind this, embracing traditions coming through the early Mission fathers, we learn of the same equability of temperature, the same balmy atmosphere, the same luxuriance of vegetation. Our soil may require renewing by fertilization, but our climate is as constant as the sun. The conditions which have produced the result are themselves unchanging, and so must be the result.

It Is Health-Giving. California is a universal sanitarium. The climate of the Coast is invigorating, stimulating and delightful, neither hot nor cold; the laborer knows no fatigue except from physical exhaustion resulting from over-taxed muscles. The brain-worker yields only to failure of mental powers. In the interior valleys, in midsummer, the temperature is higher, and there is discomfort at times while working in the harvest fields and at the desk and behind the counter. But the dryness of the air robs the thermometer of much of its terror. The sensible temperature, i. e., the temperature we in fact experience or feel in the valleys, is less irksome at 100 or 110 degrees than in regions of greater humidity of the atmosphere where the reading is from 85 to 95 degrees. Sunstroke here is unknown. It is the common experience of persons coming into almost any part of the State that they increase in weight and strength, are less troubled with nervous affections, sleep and eat well, and improve in health if ailing from any cause.

Source of Happiness. The variety of temperature and climatic conditions existing in the mountains, valleys, and on the coast, and the celerity and ease with which our inhabitants may change their immediate surroundings, constitute one of the great charms of California life. Thousands of families residing in the valleys find their way into the mountains or to the seacoast and have most delightful camping-out experiences; and this they do in a few hours or a day or two at most, with their own conveyances. Our valleys and mountains lie so related to each other that no spot can be found devoid of scenic beauty. There is no dull monotony in the farmer's life as there is from necessity in the lives of those who reside on the great plains regions of the West, few of whom are ever permitted to enjoy the inspiring and elevating means of recreation and rest from labor which are a part of our life here.

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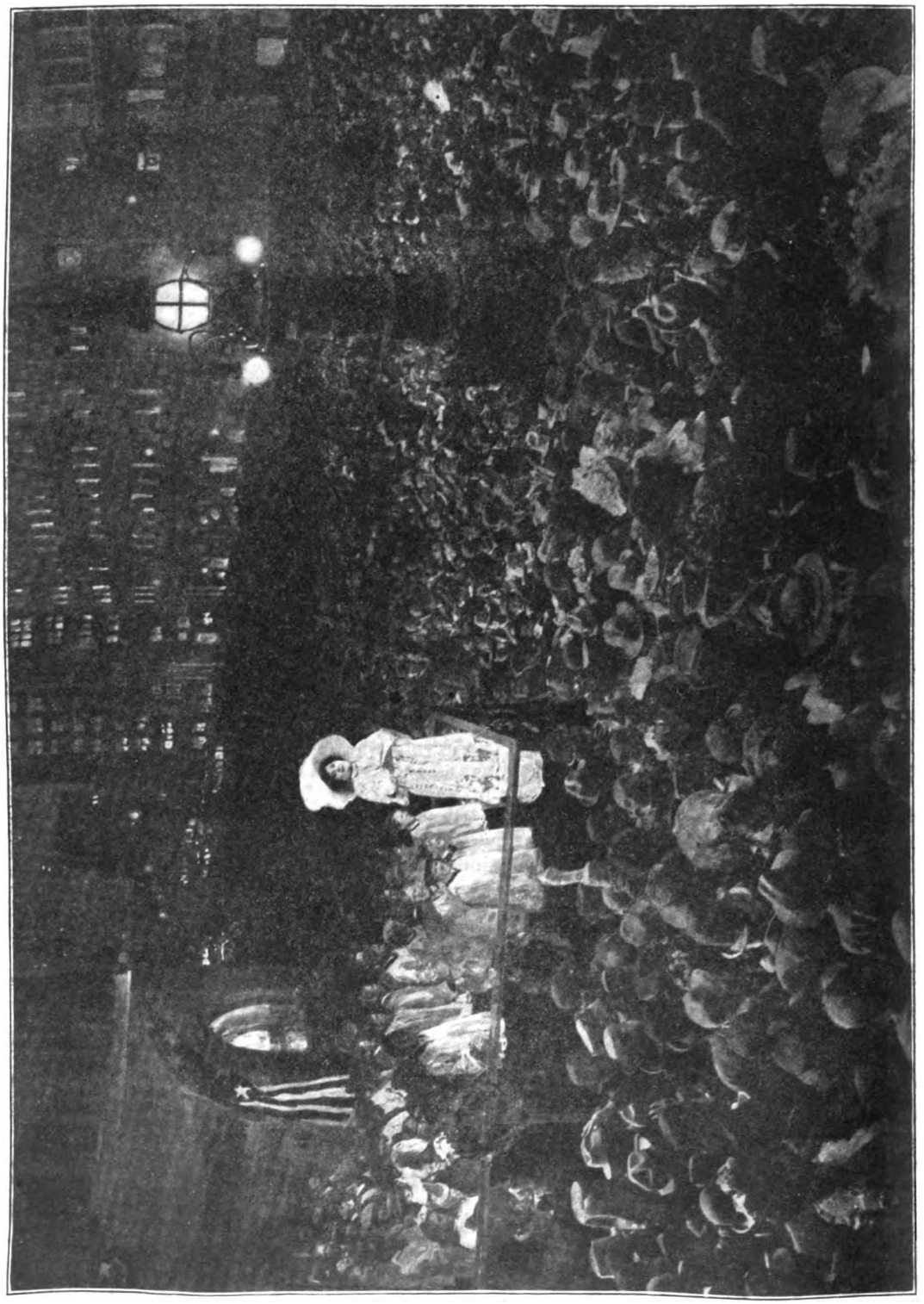

MADAME TETRAZZINI SINGING IN THE OPEN AIR AT LOTTA'S FOUNTAIN, SAN FRANCISCO, CHRISTMAS EVE, 1910.

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Some Peculiarities. Degrees of latitude cut little figure in determining the readings of the thermometer, which is not at all true on the Atlantic Coast and in the West. The foregoing table tells the story from official sources for 1910 and is valuable as covering the whole distance and intermediate points, from San Diego, near the south line of the State, to Hornbrook, Siskiyou County, near the Oregon line, nearly ten degrees of latitude apart.

The fact that latitude has little to do with our climate is a remarkable feature. It is not true of Italy, for there is a great variation there between the temperature north and south. It is not true of France or elsewhere along the west coast of Europe. We believe this to be a peculiarity unique and found only on this Coast. This peculiarity is further attested by the fact that in nearly the whole length of this vast region the same fruits are grown. Within a radius of fifty miles around Oroville, which is 150 miles north of San Francisco, and 650 miles north of Los Angeles, there were nearly five hundred (500) carloads of oranges raised last year and shipped out of the State, and they ripen earlier than in the south. Elevation has much more to do with temperature than latitude, for in high altitudes we find snow. Our mountain summer climate is extremely delightful and is destined to draw many Eastern people to the numerous charming retreats in the Sierra Nevada and the Coast Range.

Economic Value. But, after all is said, it must be conceded that climate is our greatest resource because of its high economic value, as it is also our most valuable asset. The unthinking speak of climate as an attraction rather than a resource, but it is a resource because by its influence we are enabled to so marvelously diversify and increase the number of our agricultural products, and often, too, all these products may be grown on the same body of land. It is a resource, because man's labor here can be profitably employed every day in the year; because there is no month when vegetation in some form is not growing, and because it furnishes ideal conditions for the growth of irrigated crops. There is no time in California when all nature is at rest or plant life is sleeping. In the field, orchard, garden, factory, and in the mines; on the stock-farm and in the dairy, every day is a day of productive labor. We commence shipping fresh deciduous fruits in May and there is no cessation until December. In November we begin to ship citrus fruits, and they overlap the deciduous fruits and continue, in fact, the year through.

Professor E. W. Hilgard justly sums up the matter thus: "Taken as a whole, California corresponds in its climatic features and adaptation to the Mediterranean region of Europe and Africa—a grand Riviera, with a partial background of the desert as well, where the date palm and the ostrich find a congenial home, and alluvial plains equaling in richness the famed delta of the Nile."

IRRIGATED AGRICULTURE—THE DOMINANT INDUSTRY OF CALIFORNIA.

By Samuel Fortier.

California has always been considered a State of great possibilities. Her mines and her commerce and her climate and agriculture have long been the theme of inspiring pen-pictures. With a range of climate and soil and of mountain and valley more varied than that possessed by any of her sister States, with a geographical position and commercial facilities naturally favorable to intensive development, she has ranked as the leader in the upbuilding of Western America. But while her gold and her seaports and her forests and commerce have made her position unique among the States, her future has always been considered bound up in her agriculture. Over half a century of development has shown that if this agriculture is to be the best of which the State is capable, it must be founded on irrigation, and for years the careful husbandman has, over a large portion of the State at least, made the artificial application of water to land an important part of his industry. Hence it is that any treatment of irrigation in California must consider not only what has been accomplished, but what seems possible of accomplishment in the future.

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The total land area of California is approximately one hundred million acres. According to data secured by the Office of Irrigation Investigations of the United States Department of Agriculture, about 2,500,000 acres was actually irrigated in 1909. This statement, however, does not convey a true idea of the relative importance of irrigation to agriculture in California. Professors Hilgard and Loughridge, of the University of California, estimate that only fourteen million acres, or about one-seventh of the total area, is valley agricultural land, so that the two and one-half million acres irrigated comprise more than one-sixth of the irrigable land of the State. This estimate does not include the tillable upper mesas and mountain valleys, both of which contain large areas of irrigable land. Yet this is not the whole truth. In 1902 about one-fifth of all the irrigated land in the United States was in California, and this State ranked first in the total number of irrigated farms and in the total construction cost of systems. The highest priced irrigated land in America is found in California, and in no other State has water for irrigation reached so high a value, or been as carefully and as economically used. And in no other State is there so great an area of fertile farming land for which the available supply is so large.

Irrigation, like any other development, has followed the lines of most evident financial returns. Hence the localities of least annual and summer rainfall were the first to be reclaimed by the artificial use of water. The tide of irrigation, however, has been moving steadily northward, and excepting in the mountainous sections and the sections of excessive rainfall, the necessity for irrigation, or at least the value of it where it is not a complete necessity, is almost universally recognized. While heretofore, then, irrigation has followed the line of the most evident return, in the future it will follow the available water supply.

The water supply of the State is in its streams and wells. The wells now dug and in use are chiefly in Southern California and in the lower San Joaquin and the Santa Clara Valleys. Only the larger streams of the State have been measured, and without reliable data it is impossible to estimate the flow in the hundreds of smaller streams.

The supply in the larger streams, as measured by the United States Geological Survey, is given in the following table. These figures give in round numbers the average annual flow in acre-feet for the past four to six years:

TOTAL MEAN ANNUAL FLOW OF CALIFORNIA STREAMS IN ACRE-FEET.

Name of Stream.	Station.	Acre-feet.
San Joaquin River	Herndon	1,840,000
Tuolumne River	La Grange	2,130,000
Kings River	Sanger	2,138,000
Stanislaus River	Knight's Ferry	1,365,000
Merced River	Merced Falls	1,220,000
Kern River	Bakersfield	658,000
Kaweah River	Three Rivers	534,000
Tule River	Porterville	180,000
Salinas River	Salinas	200,000
American River	Fair Oaks (near)	3,610,000
Yuba River	Smartsville (near)	3,256,000
Feather River	Oroville	6,095,000
Cache Creek	Yolo	420,000
Stoney Creek	Fruto (near)	570,000
Sacramento River	Red Bluff (near)	10,175,000
Southern California streams		200,000
Colorado River at Yuma (one-half flow)		15,550,000
Total		41,866,000

Leaving out of consideration the water supply available in the creeks and smaller rivers, 42,000,000 acre-feet of water is sufficient to cover the 14,000,000 acres of agricultural land in California to a depth of over 36 inches, which is ample for the growth of all crops. This vast quantity of water can never be entirely utilized in irrigation, because it cannot be fully controlled, but the statement of it shows the tremendous potentialities of California irrigated agriculture.

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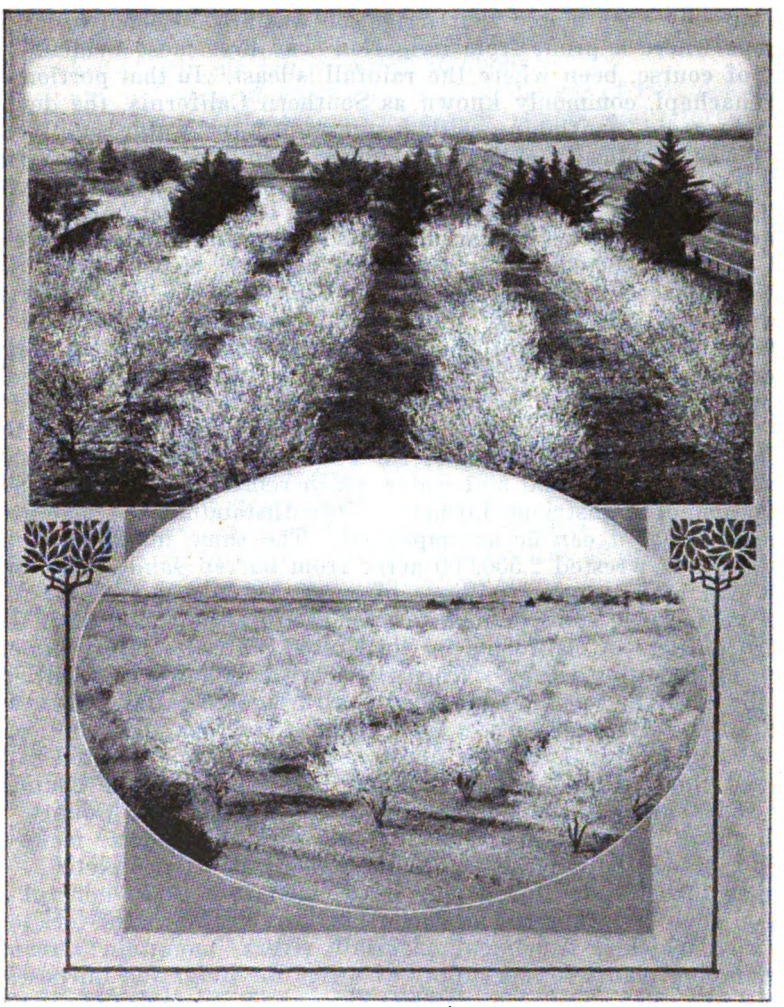
FISHERMEN'S WHARF, SAN FRANCISCO, AT MID-DAY.



ALMOND TREES IN BLOOM.

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What California is now accomplishing by irrigation can partly be told by using as a basis the irrigation census of 1902. According to this census, 1,708,720 acres were irrigated in 1902, which was an increase of 18.2 per cent over the area irrigated in 1899. From 1902 to 1909 the increase has been more rapid, and about 2,500,000 acres are being watered at this time.

Using the figures that were true up to 1902 as a basis, the total cost of the irrigation systems has been over $27,000,000, or over $13.50 per acre. The significance of this last figure is apparent when it is remembered that it is nearly one-half the total value of land and buildings invested in manufactures in California in 1900.

From the returns made by assessors and the shipments of products out of the State it is possible to form an approximate estimate of the value of a part of the irrigated product. Of the 300,000 acres in vines and an equal area in orchards, the annual gross returns to the growers would not vary far from $150 per acre, or $90,000,000 in all. Then, in addition, there is alfalfa, vegetables, small fruits and other crops, the greater part of which are irrigated. The gross returns from these would increase the annual value to the extent of $45,000,000.

It has already been stated that irrigation was first resorted to in California in those sections where a profit from irrigation was first most evident. These sections have, of course, been where the rainfall is least. In that portion of the State south of Tehachapi, commonly known as Southern California, the development of irrigation was rapid, continuing with bounds until the water supply available in the streams was practically exhausted. Since then the irrigated area has been extended only by resort to pumping from wells and by endeavoring to make the water already diverted irrigate two acres where it irrigated only one acre before. The total areas under ditches in various parts of the State in 1909 were as follows: Southern California, 850,000 acres; the Coast country, 85,000 acres; San Joaquin Valley, 2,150,000 acres; Sacramento Valley, 630,000 acres; other parts of State, 161,000 acres; total, 3,876,000; of which about two-thirds was actually irrigated in 1909. Outside of Southern California, the principal areas irrigated from wells and springs were located in the lower San Joaquin and in Santa Clara Valley.

The foregoing is a brief statement of what has been accomplished by private enterprise during less than half a century in reclaiming a portion of the irrigable lands in California. The attention of the reader has likewise been called to the natural resources in both land and water which remain undeveloped, awaiting the concerted action of industrious farmers. Notwithstanding the magnitude of this task, we believe that it can be accomplished. The same intelligence, energy and perseverance which wrested 2,500,000 acres from barren sands and low-producing grain fields can reclaim other millions of acres.

Of late years large sums of money have been expended on both the northern and southern borders of California by the United States Reclamation Service in the construction of irrigation works. When these are completed and settled they will materially increase the revenues obtained from irrigated farms and orchards. Over 55,000 acres of the Klamath Project lies in Modoc and Siskiyou counties, California. This land, although over 4,000 feet above sea-level, is well adapted to the growth of alfalfa, red clover, grains and vegetables. On the southern boundary of the State, over 16,000 acres of the Yuma Project are in Imperial County, California. These, with about 14,000 acres included in the Orland Project, make a total of 85,000 acres that will be irrigated when these projects are completed.

The areas thus far developed may be divided into three general groups depending upon their geographical location. The first comprises the territory south of Tehachapi Pass which is dependent on small rivers, mountain streams, flowing wells and pumping plants for its supply of water for irrigation purposes. The second area includes that covered by the San Joaquin River and its tributaries known as the San Joaquin Valley. The third area is the drainage basin of the Sacramento River and its tributaries covering central and interior Northern California. A full description of irrigation in the Sacramento Valley is given in Bulletin 207 of the Office of Experiment Stations, U. S. Department of Agriculture, and sim-

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ilar reports on the San Joaquin Valley and Southern California are now being prepared by the same office.

What is most needed in this State and what we should most highly prize is an influx of industrious settlers, each possessing sufficient means to enable him to make a fair start along the line of irrigated agriculture. The opportunities open to this class are exceptionally good. All of the natural advantages essential to the success of the irrigated farm are to be found in the great central valley of California—fertile soil, good climate and an abundant water supply. Yet these natural gifts count for little when not utilized. We need the intelligent brain and the trained hand of thousands of farmers to make the best possible use of these advantages. In much of this work no large amount of capital is required. The individual, mutual company and irrigation district can reclaim an additional 2,500,000 acres in a manner similar to the successful efforts of like agencies in the past. In this connection it may be a surprise to some to learn that there are about 1,375,000 acres of rich valley land now under ditch, which is not irrigated on account of the lack of settlers. Much of this land is for sale at reasonable prices. The water supply for a much larger area is readily accessible, and both land and water can be united under the most favorable circumstances whenever a sufficient number of citizens join to bring it about.

This dominant industry of California is in no danger of languishing for a few years to come on account of the lack of irrigation canals and storage reservoirs. The State is now filling up at the rate of about 100,000 people a year, and there is sufficient unirrigated land under canal systems to provide for this influx of settlers for the next ten years. The settlers should understand, however, that there are difficulties in the way of irrigation in California, as there are wherever irrigation is practiced. A brief review of some of these may not be out of place.

It has been stated that nearly 1,375,000 acres of fertile valley land are now under ditches but unirrigated. Much of this land has been cultivated for years, but it does not necessarily follow that it is ready to receive water. It may cost on an average of $15 per acre to construct permanent farm ditches and to prepare the surface for irrigation. Information regarding the methods of irrigation, cost of preparing the land, size and grade of farm ditches, etc., are available in a number of publications, but notably in Farmers' Bulletins 263, 373, 392, 399 and 404 of the U. S. Department of Agriculture. If the task of preparing land is attempted by settlers from the humid states without their first making every effort to avail themselves of the experience of older irrigators, partial failure, at least, will be very apt to result. And, in addition to the perplexities of preparing land for irrigation, others equally trying are quite sure to be encountered in applying water to land. Most beginners use too much water. The evils of this, including the waste of valuable water and injury to crops and soil, are apt to be considerable, and every effort should be made to see that they are avoided. As the land adapted to agricultural purposes becomes settled and as the available water is appropriated, the irrigable area can only be increased by improved methods of use, making it possible to irrigate three acres with the supply now being used on two. Requirements and practice vary with localities, but in every locality there are some careful irrigators whose advice, well mixed with common sense, will help to guide the newcomer along a safe path.

Besides the practical difficulty of preparing land and applying water, the irrigator in California must give careful attention to problems of the rightful ownership and equitable distribution of water. Nature usually provides an abundant quantity of snow on the elevated ranges to supply the soil of the valleys with the requisite amount of moisture, provided that it is properly husbanded and distributed or made available for use at the proper time by storage; but the State, unfortunately, has failed to make adequate provision for determining the rights of claimants to water, or for distributing to each his equitable portion. As conditions now exist, some receive too much, while others receive too little. It is to be hoped that before long the State will do as much toward protecting the rights of irrigators as some of the other Western States have done.

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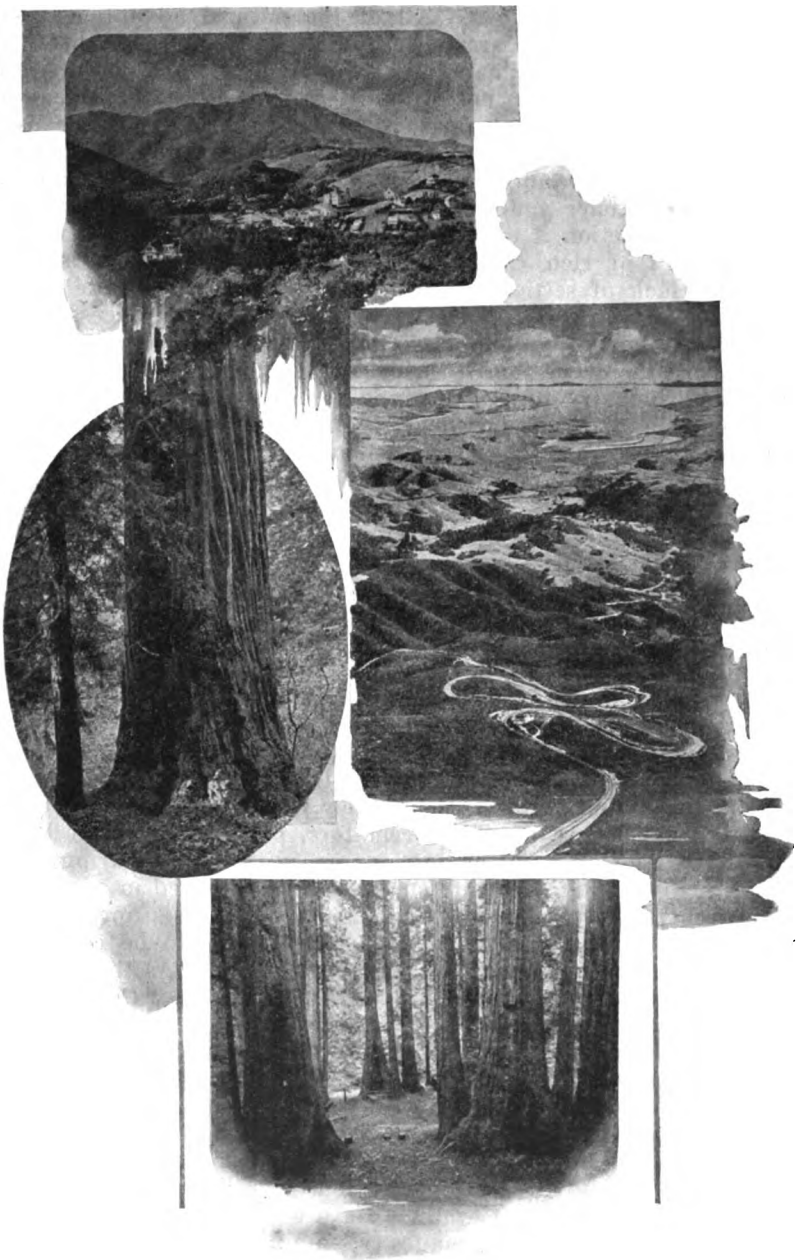

MOUNT TAMALPAIS AND VICINITY.

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EDUCATIONAL FACILITIES IN CALIFORNIA.

By Robert Furlong.

Whatever advantages in soil, climate or products a country may possess, the social conditions must also be attractive to make the place desirable for family residence.

California has been endowed by nature with a fertile soil, with a climate unsurpassed, and with rich and varied products that are yielded in abundance. Her citizens, emulating nature's example, have in like liberal spirit established those agencies that contribute to man's social enjoyment.

Schools, churches, libraries, fraternal and other civic organizations are general throughout the State. None of these agencies for good society are wholly lacking, and, except in sparsely settled mountain regions, all are accessible to every resident. Nor are these institutions of the primitive type, but are modern, and, as a rule, housed in well-apportioned buildings.

Of the several social factors named, none is closer to the hearts of the people than the school. In the country the schoolhouse is the central place of interest, and the school the bond that unites many families into one district community. In the city it is valued as an important agency in the training of youth, and considered necessary for good citizenship.

Few, if any, other States or countries have made such liberal provision for a general system of public education as has California. The founders of the State over sixty years ago inserted in its Constitution a section providing for the education of youth. This soon after led to the enactment of school laws, to the establishment of schools and to the building up of a State school system. California's educational system is a growth, the growth of over half a century of careful cultivation. Modeled originally from some of the best systems then in use in older states, it has since been many times amended to meet the needs of a rapidly developing population. In its present advanced form it is recognized by many educators as being the most nearly perfect system of public education in America. Its standards are high, its scope is broad and comprehensive, covering the whole field of school and college education.

To the intending immigrant a knowledge of the educational facilities the State has to offer to its residents is particularly desirable, for it is generally acknowledged that where school facilities are lacking few, if any, parents will care to rear their children, even when other conditions are favorable. On the other hand, a good school nearby often determines the location of the future family home. It can here be truthfully stated that there is no community in California without a school. Elementary schools instructing in all the essentials of an English education are general. The law requires the establishment of such schools and provides for their maintenance.

The conditions under which a new school district may be organized are readily complied with where convenience or necessity indicates a change should be made. By the subdivision of a large district a new community may secure a school where one has not previously been conducted. In this way school districts have been multiplied throughout the State. Many of these have a single-department rural school. When school attendance becomes sufficiently large, several teachers are employed and the pupils are classified into primary and grammar departments. Rural schools of this character are numerous in the fruit sections where the population is dense. Such schools have nearly all the advantages of well-equipped city schools. Towns and villages have graded schools of several departments similar to the graded rural schools described.

Every city is a school district of itself and has a Board of Education and a City Superintendent to direct the work. Each city has its own course of study. Because of the large teaching force, close grading can be secured in a city department. This permits of a course of study somewhat more elaborate than that

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prescribed in the County Manual for schools outside city limits. Special supervisors for such studies as drawing, vocal music, manual training and physical education are often employed in city schools to aid the regular class teachers. A teacher in a city department seldom has more than one grade of pupils, whereas a teacher in a rural school usually has several grades.

It does not follow, however, that good work cannot be done in a school of mixed grades. Many of the brightest students in the high schools and in the college courses have come from country schools having a single teacher. It should be borne in mind that this district school with one teacher, so common in the rural sections of California, is an important factor in the State's educational system. It is of a much higher class than the rural schools of many of the older states.

The instruction in the California country district is intended to cover the whole field of elementary education. The pupils of such schools are classified and graded the same as are pupils of town and village schools. A county course of study is the same for all schools, except those in cities. Such a course is followed with nearly as much precision in a single-department country school as in a school of any other class.

The legal qualifications of teachers are alike for like grades of certificates, the requirements being the same for country and city. Perhaps in no other State or country must teachers in rural schools hold certificates as high as are held by their fellow workers in the city department. These observations are made here to show that a country residence in California does not to any appreciable extent deprive families of the best school privileges. The State aims to educate all of its children, giving to all like privileges, so far as conditions will permit. To this end, through State and county support, appropriations amounting to over eighteen millions of dollars per year are expended on the public schools. This serves to maintain the schools during eight to ten months in the year. Nearly all cities, towns and many country districts have their schools in session ten months each year.

The elementary schools described in the foregoing are objects of special favor by the State, as the State school fund is used exclusively in the payment of their teachers. It is in them that the great mass of the children of California receive their early education. As previously stated, the course is broad and full, including all branches below the high school.

The teachers employed are well qualified for their work, many of them coming to it from professional training schools. But these elementary schools present only one feature of California's educational system. Secondary or high schools form another and a higher class, presenting a different phase of educational activity.

These secondary schools have academic courses that prepare pupils for college entrance. Many of them have additional courses that are elective and do not contemplate later university work. Admission to the secondary schools is to pupils who have finished the elementary course. There are four classes of these schools in the State, known as "city high schools," "county high schools," "district high schools," and "union district high schools." All have much the same plan and purpose, differing only in details of administration and support. Revenue for the maintenance of these high schools comes in part from the State through direct appropriation, but is chiefly levied upon the locality maintaining the school.

Union district high schools are multiplying rapidly throughout the State. They are formed, as the name indicates, by a union of several districts that jointly furnish students and support for one central high school. All taxable property within the area of a union district shares equally in the expense. This class of high schools is very popular in the rural sections, as it brings within the reach of country homes a school that gives all necessary preparations for college. There are now few counties in the State that have not one or several schools of this class. They have in general good, substantial buildings, costing variously from fifteen thousand to a hundred thousand dollars each. City high schools are increasing in number, also greatly improving their equipments.

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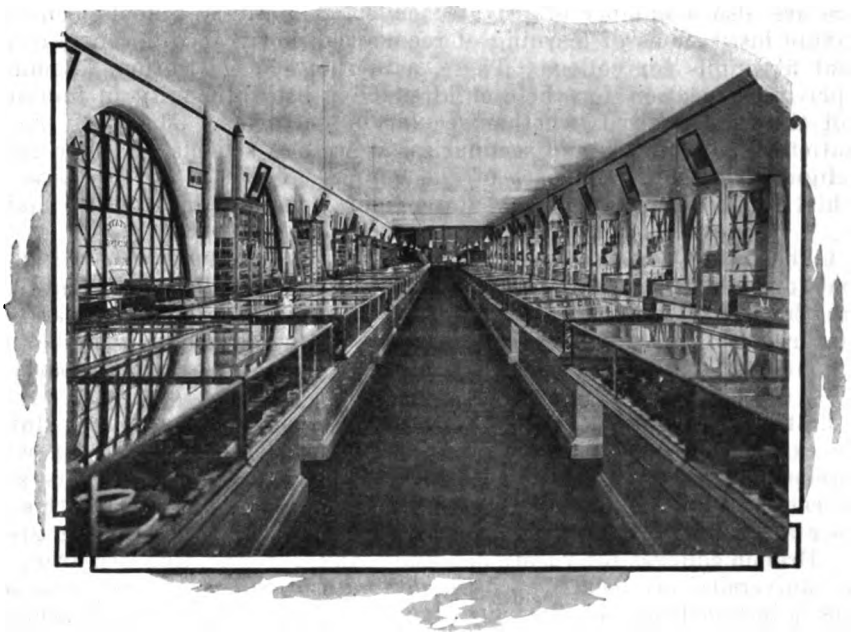

MUSEUM, STATE MINING BUREAU, FERRY BUILDING, SAN FRANCISCO.

YOSEMITE VALLEY FROM ARTIST'S POINT.

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The teachers employed in all high schools must have attainments of a high standard. Seldom any are legally qualified who have not a college degree from some university of good standing.

There are also a number of private academies, military schools, convents and other private institutions of learning of recognized merit, in different parts of the State, that fit pupils for college. These, as a rule, charge tuition. Families preferring private education for their children have little difficulty in finding select schools of the kind desired, whether secular or sectarian. Many of the church denominations have colleges and seminaries, as well as schools of lower grades, in which religious instruction is part of the course. There is an extensive system of parochial schools throughout the State, limited mainly to the cities and larger towns.

The higher education is represented in California chiefly by two great universities that are classed among the leading institutions of learning in America. These are the University of California at Berkeley, Alameda County, and the Leland Stanford, Jr., University at Palo Alto, in Santa Clara County. They are less than fifty miles apart, centrally located and easily reached from all parts of the State.

The first-named is part of the State's public educational system. Maintained at public expense, its doors are open free to all students of either sex who hold proper credentials for admission to its colleges. In the number of its students, the wide range of its college courses and the general facilities that this institution presents for students' work, "Berkeley" takes high rank among great universities. Branch colleges for vocational study and for scientific research, belonging to the university, are located in different parts of the State. Of these a group of colleges is in San Francisco, in which law, medicine, dentistry, pharmacy and veterinary surgery are pursued as professional studies. Tuition is charged in some of these professional courses. The Lick Observatory, perhaps the best-known astronomical station in the world, is a part of the University of California, on Mount Hamilton, near San Jose. Experiment stations for scientific research are also under the direction of the State institution at Berkeley, but are located elsewhere.

No less known or noted is "Stanford," as is popularly called the most richly endowed university in the world at Palo Alto. Its history with that of its illustrious founders is so well known as not to need review here. It is not due to its liberal endowment, however, that this grand university has become known to the educational world. Its plan and purpose, as designed by its founders, its policy as a university, combined with the strength of faculty, gave it high rank from the beginning, which position it has since successfully maintained.

Both of these grand institutions for the higher education are open, practically without tuition fees, to the youth of California. No State in the Union can offer better than this—few, if any, as good.

There are a number of other institutions for the higher education, of lesser rank than the two named, that confer degrees. They are colleges of good standing, mostly under the control of some religious sect and, as a rule, supported by tuition fees.

It will be seen that facilities for the higher or college education are not behind those of older States. In some particulars they are better, which fact induces many students to cross the continent for the purpose of study at the California universities.

There are six normal schools conducted by the State for the professional training of teachers. These are so located in different parts of the State that some one of the schools is easily reached by students from any residence section. From these State normal schools chiefly come the great army of teachers employed in the grammar and primary schools of the State. The professional standard is high for teachers even in the lowest grades. Superintendents of Schools, Supervisors, Inspectors, Boards of Education for cities and for counties, together with a State Superintendent of Public Instruction, and a State Board of Education, direct the work in the public school system.

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In recent years there has been a steady trend toward the practical and directly useful branches in the training of youth. Industrial education has so grown in popular favor that it now has strong support in most California communities. Courses of study have been revised to meet this popular demand. The high school curriculum has been readjusted to enlarge upon the manual training work begun in the lower grades and the colleges give entrance credits to the industrial work done in the high school. The large cities maintain well-equipped polytechnic high schools separate and distinct from their other high schools that have only college preparatory courses.

Work-shops and domestic science laboratories are necessary adjuncts to rural and town high schools having elective courses that include manual arts. The State is fostering this form of instruction also by maintaining the **University Farm School** at Davis, and the **State Polytechnic School** at San Luis Obispo. One of the six Normal schools—that at Santa Barbara—has for its **special purpose** the training of teachers to teach the manual arts and home economics. Practical instruction in gardening and agriculture is given in many rural schools.

The school library as a factor in educational work cannot well be overlooked. Every school district in the State is provided by law with a school library which is maintained by liberal apportionments of school funds each year. The statistical report on school libraries for the year 1910 shows 2,365,600 books in the school libraries of the State. Each county is provided with a Teachers' Library of professional books, which is kept at the county seat and maintained by certificate fees.

Town and city libraries in California are objects of municipal pride. They will match with those of any state or county. The great State Library in the Capitol at Sacramento is classed among the leading libraries of America.

It will be seen from the foregoing that education in California occupies a prominent place, that it is general throughout the State, that it is free to every resident, even in its highest institutions. From the kindergarten through the various elementary and high school grades to the college, inclusive, education is without direct cost to the youth of the State. Families desirous of making homes in California will find here every facility for the education of their children.

The Roman Catholic Church and the Greek Catholic Church were in California before the pioneers. The first made its dramatic entry under the leadership of Father Junipero Serra by way of San Diego, in 1769. The second came in from the North, and established itself in an inconspicuous way at Fort Ross on the Mendocino Coast in 1811. The Spanish Missions, our most interesting historic memorials, are well known, though they figure little in the present religious life of California. The old Greek church at Fort Ross still stands, and despite its primitive character deserves more recognition as a historic memorial than it has ever received.

The present church life of California is practically all the fruit of the immigration which followed upon the gold discovery of 1848. Even the Roman Catholic Church, while its primacy in point of numbers may in some measure reflect its primacy here in point of time, is indebted for its present strength in California to the immigration and development of the State during the last sixty years. The work among the Indians prior to the coming of the Argonauts and the hosts which followed them has indeed some historic and romantic interests, but it has played little or no part in determining present religious conditions.

The gold-seekers with all their eagerness were hardly here before the "soul-seekers," nor did the one make greater sacrifices for the sake of individual gain than did the others for the sake of the general good.

So far as appears the first Protestant Church to be organized in California was organized by the Presbyterians in Benicia, which some imagined then would be a greater city than San Francisco, April 15, 1849. All the other denominations were in the field in quick succession. The first house of worship to be built in California, though not the first one built for California, was the meeting house of the First

NOTE.—The material on Religious Facilities was written by Robert Whitaker.

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Baptist Church of San Francisco, put up in the summer of 1849. It was only thirty feet by fifty, with walls twelve feet high, was neither painted nor papered, had a roof of old ship sails from the harbor, and plain benches, yet it cost Six Thousand Dollars in gold. The Episcopalians spent Eight Thousand Dollars on a similar "shack," and when they passed the plates at the first service there was no coin deposited of less value than gold. By 1850 there were nine Protestant churches in San Francisco, and twenty-one in the entire State.

In 1890 the population of California was 1,213,398, that is almost a million and a quarter. Of this number about one-fifth were at that time enrolled as church members. This is understating rather than overstating the matter, for the exact numbers as given by the United States Census for that year were 280,619. In the case of the Roman Catholic Church this does not show the full strength of that communion reckoned in an ecclesiastical way, as 15 per cent of the number reported as of that household of faith was deducted to cover those under nine years of age. The number of Jews is understated as in general only the heads of families are reported. The statistics which follow, however, make the same deductions for later years, so that the numbers are fairly accurate in a relative way.

In 1890 California showed nearly two thousand church organizations (1996), and over fifteen hundred church edifices (.505). There were also 425 halls and other buildings reported as used for religious purposes. The total value of the church plant in California at that time was nearly Twelve Millions of Dollars ($11,961,-914), a fairly rich gold mine in itself.

Sixteen years later the United States Government took a religious census of the nation. For purposes of comparison an estimate was made of the population of California in that year. This estimate gave us 1,648,049, the "49" I suppose being a reminiscence of historic days. This estimate was evidently too low for the census of 1900 gave us 1,485,053, and the census just reported for 1910 gives us 2,377,549. It is hardly likely that the population grew only 162,996 from 1900 to 1906, and 729,500 from 1906 to 1910.

The figures of 1906 show a church membership in California of 611,464, as against a church membership in 1890 of 280,619, a net increase of 330,845, or a little more than twenty thousand a year. Population increased in California from 1890 to 1910 at the rate of a trifle more than 58,000 a year. That is the actual church growth on the basis of this comparison was a little more than one-third of the actual population growth from year to year. In the same sixteen years the number of church organizations increased from 1996 in 1890 to 2897 in 1906, an increase of 901, or a little more than an average of one new organization every week. The sixteen years saw a net increase in church edifices of 1016, the number having grown from 1505 in 1890 to 2521 in 1906. The net increase in church buildings was, therefore, more than five every month.

Coming now to analyze the figures for 1906 the relative standing of religious bodies in California according to the latest religious census is as follows:

Total Church Membership	611,464
Roman Catholic Membership	354,408, that is 58 per cent.
Protestant Membership	236,007, that is 38.6 per cent.

The margin of about three and a half of one per cent covers the Latter Day Saints (Mormons), who are credited with about half of one per cent, and "all other religious denominations."

The principal Protestant bodies, following the same census, ranked in California in 1906 as follows:

Name.	Numbers.	Per Cent
Methodists	64,528	10.6
Presbyterians	37,682	6.2
Baptists	24,801	4.1
Congregationalists	23,690	3.9
Episcopalians	21,317	3.5
Christians	21,033	3.4
Lutherans	11,371	1.9
Total	204,422	33.6

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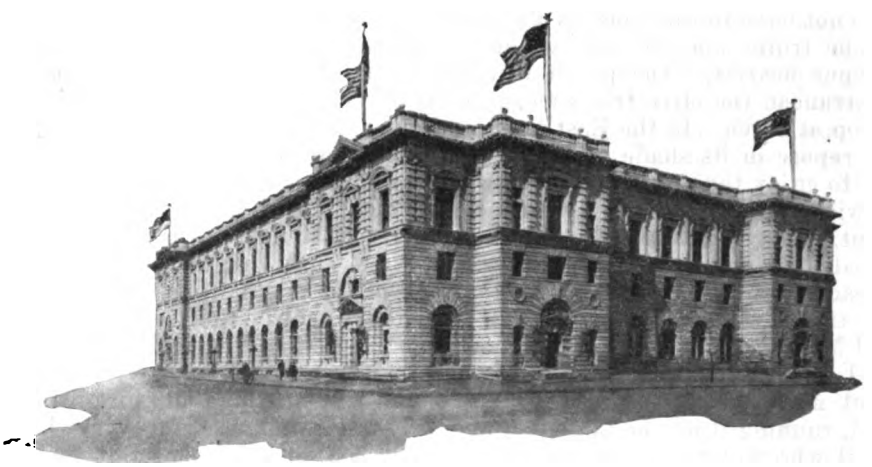
THE UNITED STATES MINT.

The United States Mint at San Francisco, from April 17, 1854, up to June 30, 1910, coined $1,794,188,698.65 in gold and silver coin.



GENERAL POST-OFFICE, SAN FRANCISCO.

Both of these buildings withstood the fire of April, 1906.

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That is among the church members of the State about one-third of them belong to these seven religious bodies. In general every tenth church member in the State is a Methodist, every twenty-fifth is a Baptist, and every fiftieth is a Lutheran. Nearly six out of every ten are Roman Catholics. But it is to be noted in giving these figures that the proportion is relative to church membership, and not to population. As California grew from 1900 to 1910 by an increase of 892,496, that is nearly ninety thousand a year, and had therefore in 1906 in round numbers two millions of people, and as the total church membership at that time was 611,464, not including children under nine years of age, it appears that the total church population was at that time about one-third that of the total population of the State.

As compared with Oregon and Washington California makes a better showing than many would suppose. The figures for the three states are as follows:

State	Church Membership 1890.	1906.	Gain	Percentage
California	280,619	611,464	330,845	117.9 per cent.
Oregon	70,524	120,229	49,705	70.5 per cent.
Washington	58,798	191,976	133,178	226.5 per cent.

It will be seen from these figures that California makes a very creditable showing as to every aspect of religious work. Since 1906 all the churches have forged steadily forward. The general feeling among religious workers in California at the present time is that the outlook was never better here for all the higher interests of men.

CALIFORNIA'S CALL TO THE IMMIGRANT.

By John P. Irish.

It is not pretended that California supplies any specific from the wealth of her soil and sunshine that will cure unthrift, bad judgment, and lack of faculty, or make of the do-less a doer. But there is legitimate basis for the belief that here the average man may work in greater comfort more days in the year, and earn his bread easier, than under the conditions that prevail in any other state or country.

California is a winterless land. No deep frosts chill the ground; vine and fig tree do not have to thaw out as a preliminary to going into business as fruit-bearers. All stone fruits, and the fig, pomegranate, orange, lemon, lime, pear, and apple are precocious bearers. The peach will bloom the second year from the pit. On the Mediterranean the olive fruits meagerly at seventeen years of age; here it bears a full crop at seven. In the East he must be a young man who plants a tree expecting to repose in its shade or to eat its fruit. Here old men may plant, and surely expect to enjoy the results. The growth of animals is not checked here by the withering winter, and a yearling horse is the equal of any Eastern two-year-old.

But, it may be asked, is not this precocity of animate and inanimate life compensated by early decay? The answer is, No. That rule has here its exception. The peach tree that blooms before the shell of the pit that bore it is decayed, bears on for thirty years, or more. Olive trees that furnished oil for the sacraments of the old Mission Fathers a hundred years ago, shade the graves of the gardeners who planted them, and ripen their yearly crop with unabated energy.

But men fail in California? Yes. Men who buy land and hire it planted and worked, running it on the absentee landlord system, fail here and everywhere. So do men fail who run manufactures and trade on the same system. But men who take here only so much land as they have the means and the ability to conserve, and can properly till and tend with the labor of their own families, do not fail; for here Nature helps the industrious hand, and nowhere else does intelligent labor add as much to the value of the land, for the reason that here Nature holds one handle of the plow.

The advantage that California has in climate where growth and production go on without pause is seen when the farmer finds his vines and trees, fields and truck-patch producing something for the market every month in the year.

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What effect does the climate have on the cost of living? Where the pastures yield natural forage, green or dry, every day; where the water never freezes; where vegetable growth goes on forever, and the storage of vegetables for winter use is never necessary, because they are growing and fresh daily, it is natural that the cost of living should be less than where the summer and fall are spent in hard labor to store food and fuel against the long winter that suspends production. Beef and mutton from the ranges; fish from the waters; fruits and vegetables reach market here in a condition for use more cheaply than elsewhere.

The economic value of climate should be considered in selecting a home; first, in respect to the health of the family, and, second, in respect to the number of days yearly in which your vocation may be followed. California, it may be said, has no endemic diseases. Except in the high Sierra Mountains the snow does not impede outdoor occupation. There are no tornadoes or chilling blasts, nor are there any sudden changes in temperature which imperil life. The heat in the valleys, though high as indicated by the thermometer, is not excessive enough to prevent labor in the fields on the hottest days; because the air being dry, the latent heat of the body is rapidly eliminated, and the blood is kept cool. It will bear repetition that every day in the year is a working day. It follows that it costs less to live in California than in any other state in the Union, and the comfort of life is greater.

The intending settler should fix firmly in his mind the topography of California. We have a winter season called "wet," and a summer season called "dry." In the winter months the average rainfall is about twenty-five inches, distributed through four months of the year, and this is ample to insure abundant crops. California is 850 miles long. Her coast line extends as far as from Boston to Savannah. At the same altitude the climate is practically the same in the north as in the south of the State; hence San Diego in the south and the country 600 miles to the north produce identically the same crops. On the west slope of the Sierra Nevada Mountains, at an elevation of from 400 to 1,000 feet, is the famous foothill warm belt, stretching from Shasta to Kern County, and noted for the superiority of its fruits, including the fig, orange, lemon, and olive.

There is one great valley; its south end rests on the Tehachapi Mountains, and its north end is lifted up by Mount Shasta. This great trough sags in the middle, and the rivers that run from each end escape into San Francisco Bay through a common delta. From these rivers we name each end of the valley, thus giving the impression that there are two valleys. The north end of the valley is the valley of the Sacramento, with an area of 4,000,000 acres. The south end is the valley of the San Joaquin, with 7,000,000 acres. This valley is the seat of wheat and raisin culture. On the west of this great valley rises the Coast Range, in which lie a number of fertile and extensive valleys, such as Santa Maria, Sonoma, Santa Clara, Vaca, and Suisun. In most of these fruit growing is the principal industry. The slopes of the Coast Range toward the sea and the high Sierras, are favorable for dairying. To some extent, therefore, the settler is guided in the selection of his residence by the business he desires to pursue.

We expend annually over $7,000,000 for the maintenance of our public schools. The State is entirely out of debt. The financial report shows that the State debt is about $2,500,000, but this is only a form of statement. There is that amount of State bonds, but the bonds are owned by the State and are covered into the State school fund. The State pays the interest to the State school fund, which is annually apportioned to the public schools. If California has a reputation for public extravagance it is undeserved, and the intending immigrant need not hesitate for fear his interests will suffer by reason of high taxation, due to the waste of public money.

It is not given to all men to be wealthy; but every original fortune in this country was founded in some man's determination to make a living and provide for life's decline when labor is impossible. Immigration flows where a living may be made under the most favorable conditions. The variety of resources in California

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invites an equal variety of tastes, training, and experience. If a man desires to mine, along the western flank of the Sierra Nevada Mountains for 800 miles is the world's greatest gold field. It has already yielded $1,000,000,000 from the merest scratching of its surface.

Horticulture here rises to the rank of a profession. Our soil and climate are so adapted to it that fruits from every zone may be grown. The clemency of our climate and its halcyon quality invite enterprise and ingenuity to experiment in all horticultural refinements. No equal area of the earth's surface has produced profitably a variety of the fruits of tree, vine, and shrub equal to that of California.

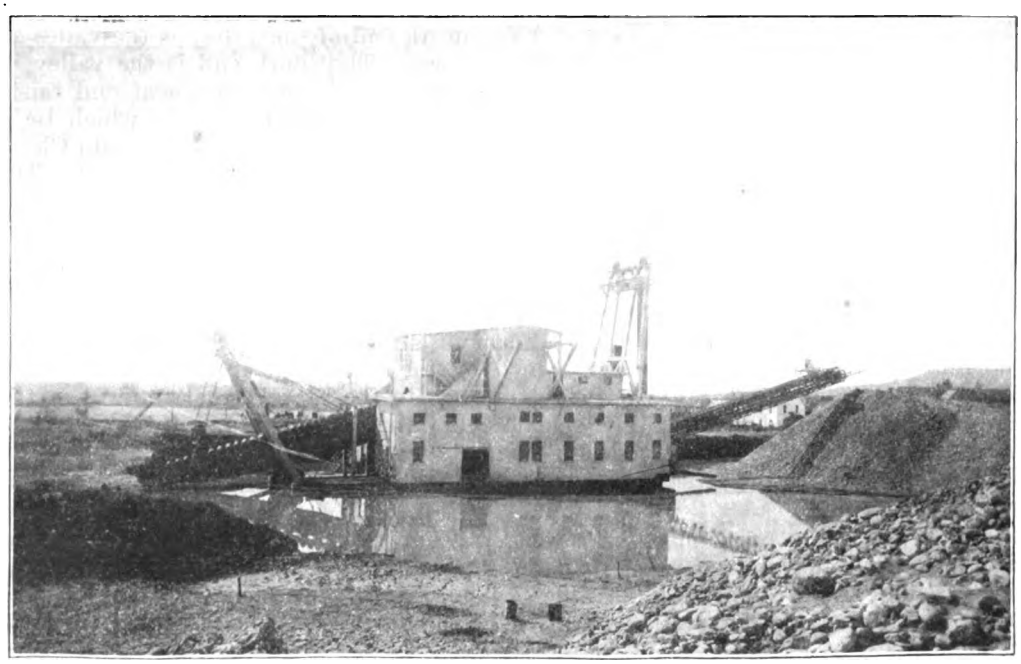
The beginning of all successful manufacture is in the transmutation of the most abundant raw material into more merchantable or more permanent forms for transportation and use at a distance. The State is not yet sufficiently supplied with plants for drying and canning our surplus fruits, or for reducing them to fine jellies, jams, pickles, pastes, etc. Immigrants who have a taste for these arts will find here a growing field.

No place presents better facilities for variety farming as it is practiced in the Mississippi Valley. With a small tract of land which may be cared for by the labor of an ordinary family, with some orchard or vineyard bordered with almond and English walnut trees, producing some alfalfa and grain, and carrying some cows, pigs, and chickens, the owner will find something produced for market every day in the year, while his family living will nearly all come direct from the soil he tills.

Since the above was written the people of the State have voted a bond issue of $18,000,000 for the construction of good roads upon the most modern plans and under the best engineering supervision. This supplements bonds issued by several counties for the construction of good roads, fine examples of which may be seen in San Joaquin, Los Angeles and Santa Clara Counties, and also in Alameda County, where the construction has been borne by the ordinary tax levy, without a bond issue.

These expenditures will endow the State with an asset, and country life with an economical convenience in value far exceeding the cost.

The State has also voted a bond issue of $5,000,000 to equip the Panama-Pacific Exposition, which is to emphasize the completion of the Panama Canal. This expenditure will be returned many fold in benefits to the people and industries of California.



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San Diego's Panama-California Exposition in 1915

SAN DIEGO'S PANAMA-CALIFORNIA EXPOSITION was organized and incorporated in September, 1909. The purpose of the exposition is to commemorate the completion of the Panama Canal and to exploit the resources, industrial and commercial, of the Southwest, Southern California and the West Coast of Mexico, Central and South America.

The exposition will open on January 1, 1915, and it will close on December 31st. The enterprise is completely organized, with U. S. Grant, Jr., as President and D. C. Collier as Director-General. There are two funds of $1,000,000 each from which the expenditures will be made for buildings and maintenance. The first of these funds was raised by subscriptions of stockholders of the corporation, and the second was voted in bonds for the improvement of Balboa Park, which will be the site of the Mission City in which the exposition will be held.

At the time these funds were contributed San Diego had a population of only 40,000. The per capital subscription to the exposition stock, therefore, was $20; and the total per capita for both funds was $40. No other city in the world has ever manifested such substantial public spirit in similar circumstances.

Preparations for the exposition are now complete, and ground will be broken for the first permanent buildings on July 19th. The occasion will be marked by elaborate civic ceremonies, a series of historical and picturesque pageants, including a parade of floats representing the twenty-one missions founded by the Franciscan Fathers, and a fiesta or carnival of unexampled splendor.

The first structure to be dedicated will be the administration building. The architecture of the group of buildings will be the Spanish-Colonial style, based on the Mission type so familiar to Californians. This feature of the exposition is under the direction of Bertram G. Goodhue, of the firm of Cram, Goodhue & Ferguson of Boston and New York, and the leading authority on Spanish-Colonial architecture. The buildings will be constructed by Frank P. Allen, Jr., Director of Works. The grounds will be laid out and planted by John C. Olmstead, of the firm of Olmstead Brothers, landscape architects of Boston.

The exposition itself will be novel in character, comprising a distinctive exhibition of ethnological, aboriginal and archæological features peculiar to the countries included in the scope of the exposition; a comprehensive demonstration of the great reclamation and irrigation projects of the Southwest and the arid regions of Mexico; and a practical presentation of the handicrafts and industries of every section tributary to Southern California, of which San Diego is the seaport destined to be the gateway of the Southwest when it shall be the first port of call in territory of the United States north of the Panama Canal and the terminal of the San Diego and Arizona Railway, closing the gap between Pacific tidewater and Yuma and connecting the transcontinental railroads with the shortest route between the Middle West and the new highway of commerce between the canal and the Orient.

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